# COUNTY OF ORANGE

RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

*Bryan Speegle, Director*
300 N. Flower Street
Santa Ana, CA

P.O. Box 4048
Santa Ana, CA 92702-4048

Telephone: (714) 834-2300
Fax: (714) 834-5188


August 27, 2004

Ms. Joanne Schneider
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501-3339

**SUBJECT: Newport Bay Fecal Coliform TMDL Annual Data Report**

Dear Ms. Schneider:

The County of Orange Resources and Development Management Department (RDMD) is pleased to submit the Newport Bay Fecal Coliform TMDL Annual Data Report.

The attached information addresses the requirements of the fecal coliform TMDL and a January 7, 2000 letter from the Santa Ana Regional Water Quality Control Board (RWQCB). It represents the collective response of the named entities and its contents reflect assistance from the Orange County Health Care Agency.

The County of Orange is committed to responding to environmental concerns within the Newport Bay watershed, many of which relate to the TMDL process. If you have any questions or comments regarding this report, please call me at (714) 567-6360.

Very truly yours,

Chris Crompton, Manager
Environmental Resources

Attachment: Newport Bay Fecal Coliform Annual Data Report

cc: The Irvine Company
Irvine Ranch Water District
Newport Bay Watershed cities

# NEWPORT BAY FECAL COLIFORM TMDL
# ANNUAL DATA REPORT

## September 2004

**Prepared and submitted on behalf of:**

**The County of Orange**
**and**
**The Cities of Costa Mesa, Irvine, Lake Forest,**
**Laguna Hills, Laguna Woods, Newport Beach, Orange, Santa Ana, and Tustin**

## TABLE OF CONTENTS



## APPENDIX

## FIGURES



## TABLES

# 1.0 INTRODUCTION

The fecal coliform Total Maximum Daily Load (TMDL) for the Newport Bay was established by the Santa Ana Regional Water Quality Control Board (RWQCB) on April 9, 1999. The TMDL and the January 7, 2000 Water Code Section 13267 letter from the RWQCB (**Appendix A**) require the County of Orange and the Cities of Costa Mesa, Irvine, Lake Forest, Newport Beach, Orange, Santa Ana and Tustin (watershed cities) to develop a routine monitoring program for Newport Bay and to submit an annual data report by September 1st of each year. The report is required to summarize the bacteriological data collected in Newport Bay from April 1st through March 31st and evaluate compliance with the recreational use (REC-1) bacterial water quality objectives established in the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan). This report responds to these requirements and includes data from April 1, 2003 through March 31, 2004.

# 2.0 ROUTINE MONITORING PROGRAM (TMDL Section 3.a.ii.a)

## 2.1 Data Collection

Section 3.a.ii.a of the TMDL requires the County and watershed cities to implement a routine monitoring program to determine compliance with bacterial quality objectives in the Bay. At a minimum, routine monitoring includes the collection of five samples per 30-day period at a total of 35 stations, as identified in **Figure 1**, and analysis of the samples for total coliform, fecal coliform, and *enterococcus* indicator bacteria. The County and watershed cities have identified the current monitoring program implemented by the Orange County Health Care Agency (HCA) as the basis for satisfying the requirements of the routine monitoring program.

The Basin Plan established fecal coliform water quality objectives for REC-1 use of Bays and Estuaries as follows:

> *Fecal coliform concentration: log mean less than 200 MPN/100 mL, based on five or more samples/30 day period, and not more than 10% of the samples exceed 400 organisms/100 mL for any 30-day period.*

## 2.2 Data Analysis

**Table 1** presents the data from HCA's bacteriological monitoring program. Concentrations of total coliform, fecal coliform and *enterococcus* indicator bacteria are listed for each Bay and tributary station with the corresponding sampling date.

**Table 2** presents an evaluation of the data in Table 1 with respect to the REC-1 fecal coliform objective in the Basin Plan (see definition above under 2.1 Data Collection). In determining if a single date met the objectives for a 30-day period, three conditions resulted in a "no" determination. Those three conditions are:

- The single day sample exceeded 400 MPN/100 ml; or
- The log mean was greater than 200 MPN/100 ml; or

- There was a single day exceedance of 400 MPN/100 ml within the thirty day period[1].

### 2.2.1 2003-2004 Data

Calculation of the geomean for the first four sampling events in April required the use of some March 2003 data from the previous sampling year (see the September 2003 Report). Failure of the objective on these dates may be due to an exceedance of the acute 400 organisms/100 mL standard in the preceding data. It should also be noted that the Santa Ana Delhi Channel, Back Bay Drive Drain, and Big Canyon Wash tributary stations are not assigned REC-1 beneficial uses. The data from these tributaries have been provided as recognition of their potential impact on water quality in Newport Bay. As a result, the data for Santa Ana Delhi Channel, Back Bay Drive Drain, and Big Canyon Wash have not been evaluated with respect to the REC-1 fecal coliform objectives.

**Figures 2** and **3** show the percentage of time that fecal coliform sampling at each station met REC-1 fecal coliform objectives for the dry and wet seasons respectively.

Three stations were frequently not amenable to sampling due to either: 1) Low tide conditions (Vaughn's Launch and Ski Zone), 2) Lack of access to site due to inaccessible roads (Vaughn's Launch and Ski Zone), or 3) No water present due to diversion practices (Back Bay Drive Drain). The inability to sample at these locations on a regular basis is the primary reason for missing geomean values as depicted in **Table 2**. In particular, geomean values for the Upper Bay stations of Vaughn's Launch and the Ski Zone could only be calculated six and three times respectively for the entire sampling period of April 7, 2003 – March 31, 2004. Consequently, there is insufficient data to determine if the stations where in compliance with the fecal coliform objectives.

During the dry season (April 15 – October 15), as depicted in **Figure 2**, seventeen of thirty-one stations met the REC-1 objective at least 75% of the time. The following four stations met the objective 100% of the time:

- Via Genoa Beach
- Grand Canal
- Abalone Avenue Beach
- Promontory Point Channel

The following five stations met the objective less than 45% of the time:

- 43rd Street Beach
- 33rd Street Channel
- Newport Blvd. Bridge
- Harbor Patrol Beach
- Newport Dunes North

[1] Due to the weekly sampling schedule, a single day exceedence of 400 MPN/100 mL results in a greater than 10% exceedence within the thirty-day period.

During the wet season (October 16 – April 14), as depicted in **Figure 3**, eight of thirty-one stations met the REC-1 fecal coliform objective at least 75% of the time. The following ten stations met the objective less than 45% of the time:

- 43rd Street Beach
- 38th Street Beach
- Via Genoa Beach
- 10th Street Beach
- Onyx Avenue Beach
- De Anza Launch
- Newport Dunes Middle
- Newport Dunes East
- Newport Dunes North
- North Star Beach

### 2.2.2 2001-2004 Data

**Figures 4** and **5** show the percentage of time that fecal coliform sampling at each station met REC-1 fecal colform objectives for the dry and wet seasons based on the cumulative annual report data from April 2001-March 2004.

During the 2001, 2002 and 2003 dry seasons (April 15 – October 15), as depicted in **Figure 4**, twenty of thirty-one stations met the REC-1 objective at least 75% of the time. The following four stations met the objective less than 45% of the time:

- 43rd Street Beach
- 33rd Street Channel
- Newport Blvd. Bridge
- Harbor Patrol Beach

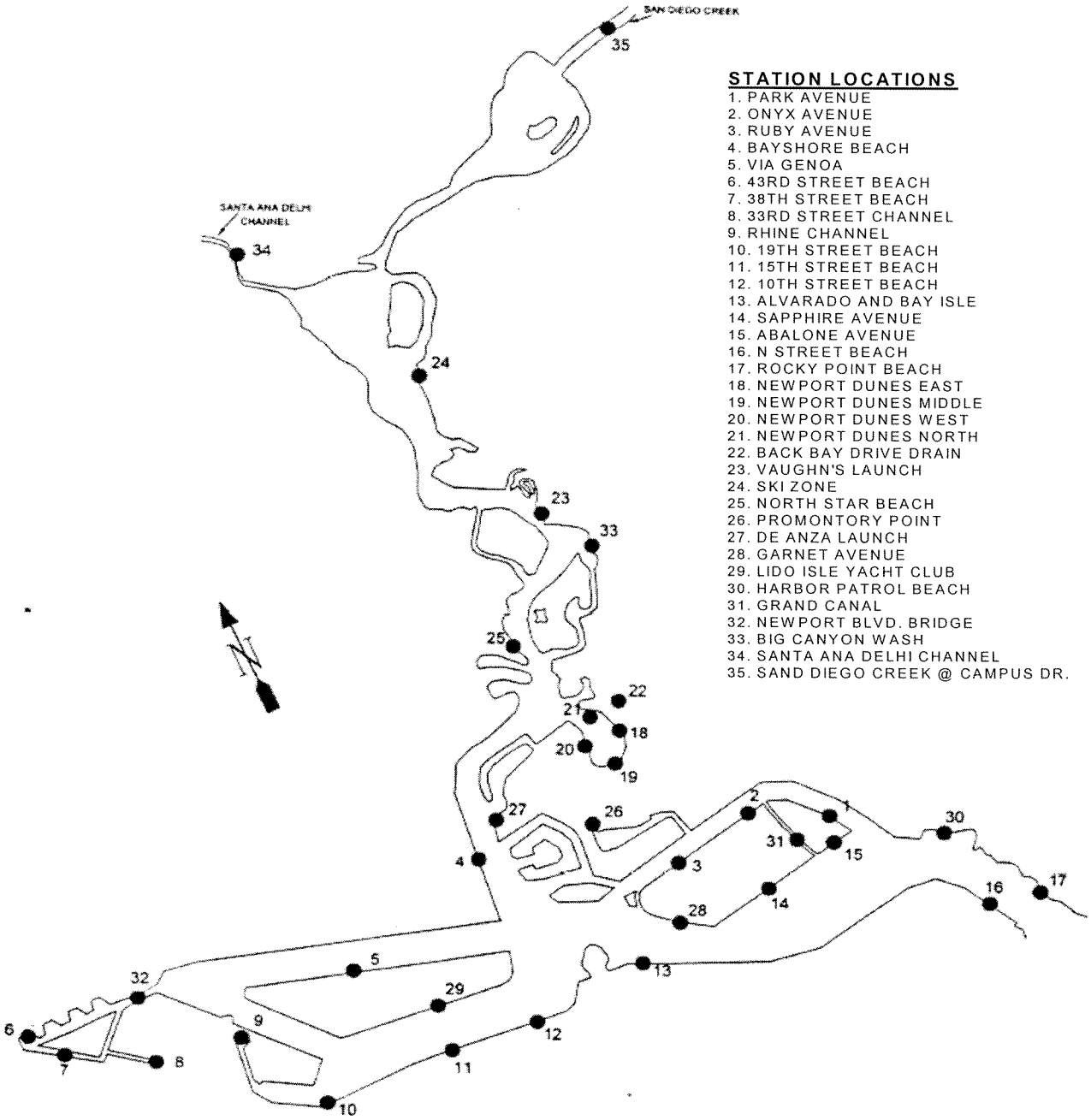
During the 2002, 2003 and 2004 wet seasons (October 16 – April 14), as depicted in **Figure 5**, seven of thirty-one stations met the REC-1 fecal coliform objective at least 75% of the time. The following eleven stations met the objective less than 45% of the time:

- 43rd Street Beach
- 10th Street Beach
- 19$^{th}$ Avenue Beach
- Newport Blvd. Bridge
- Onyx Avenue Beach
- Newport Dunes West
- Newport Dunes Middle
- Newport Dunes East
- Newport Dunes North
- North Star Beach
- San Diego Creek

# FIGURES

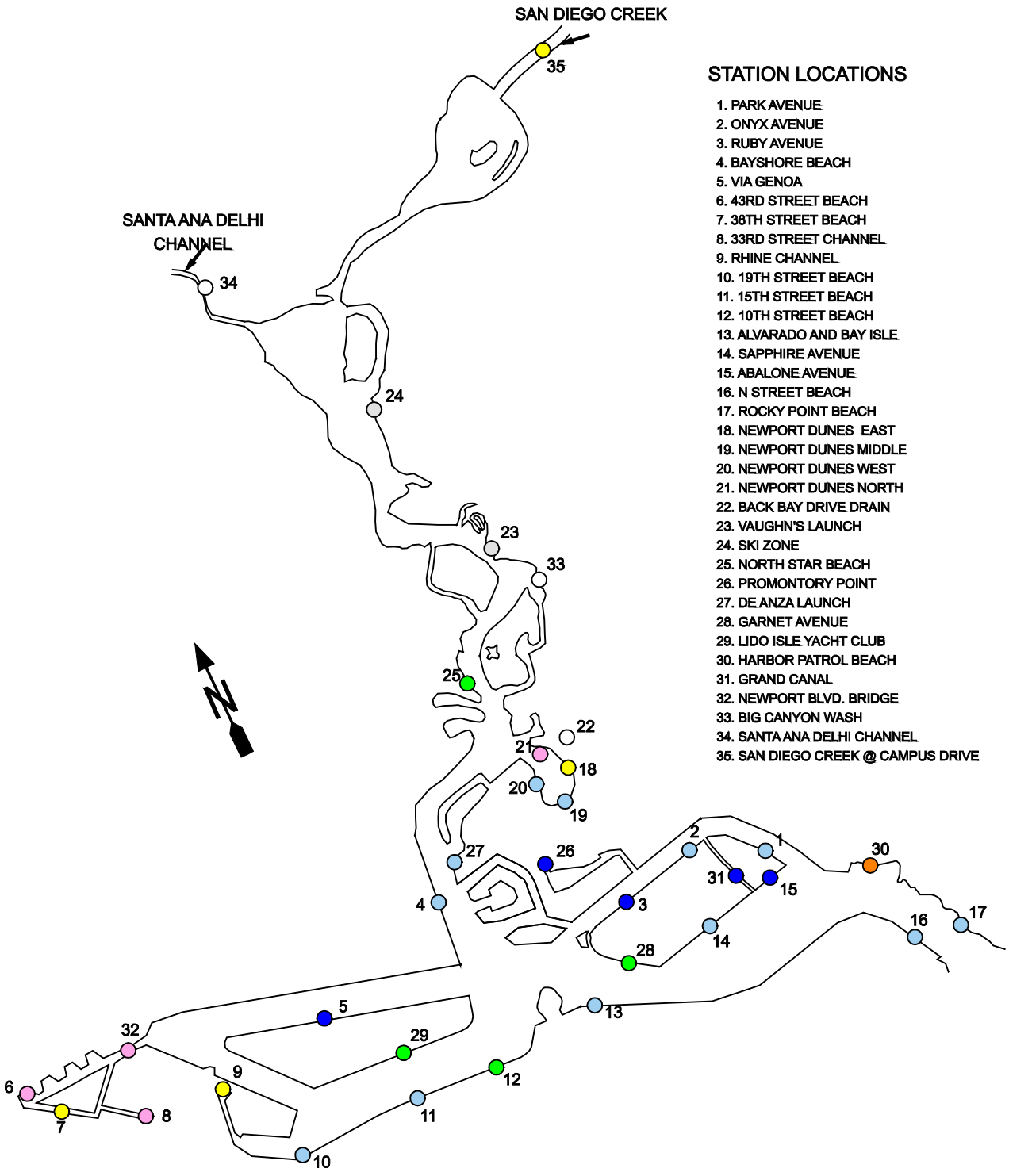
# FIGURE 1

## BACTERIOLOGICAL WATER SAMPLING STATIONS IN NEWPORT BAY



# FIGURE 2

## Percentage of Time REC-1 Fecal Coliform Objective Met (200 MPN/100mL Geomean and non-exceedance of 400CFU/100mL) for 2003 Dry Season (April 15 - October 15)

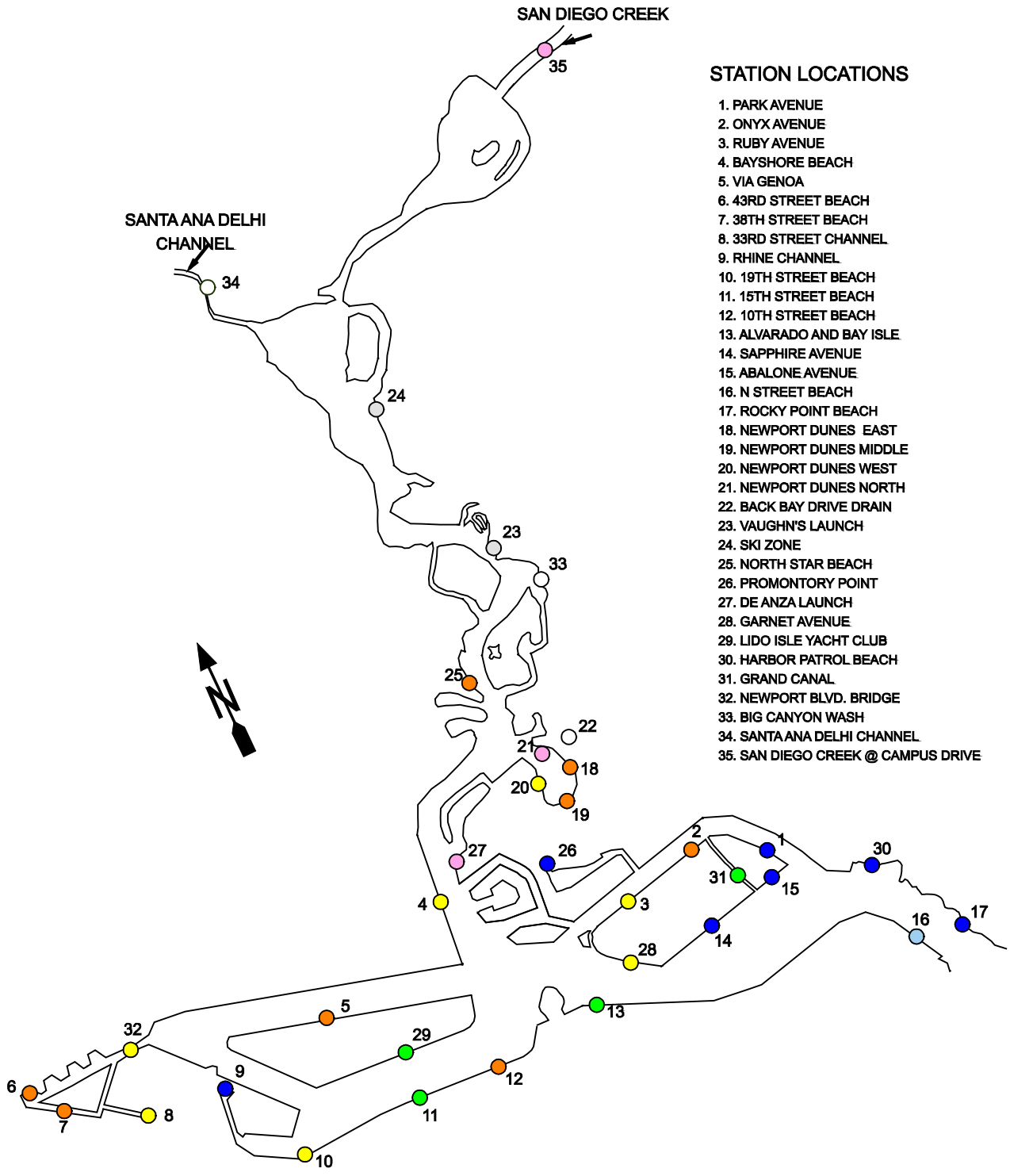



| NA | ID | 0% - 14% | 15% - 29% | 30% - 44% | 45% - 59% | 60% - 74% | 75% - 89% | 90% - 100% |
|---|---|---|---|---|---|---|---|---|

NA = Not evaluated. Not assigned REC-1 standards.
ID = Insufficient data to calculate a representative percentage value for site.

# FIGURE 3

## Percentage of Time REC-1 Fecal Coliform Objective Met (200 MPN/100mL Geomean and non-exceedance of 400CFU/100mL) for 2003-2004 Wet Season (October 16 - April 14)



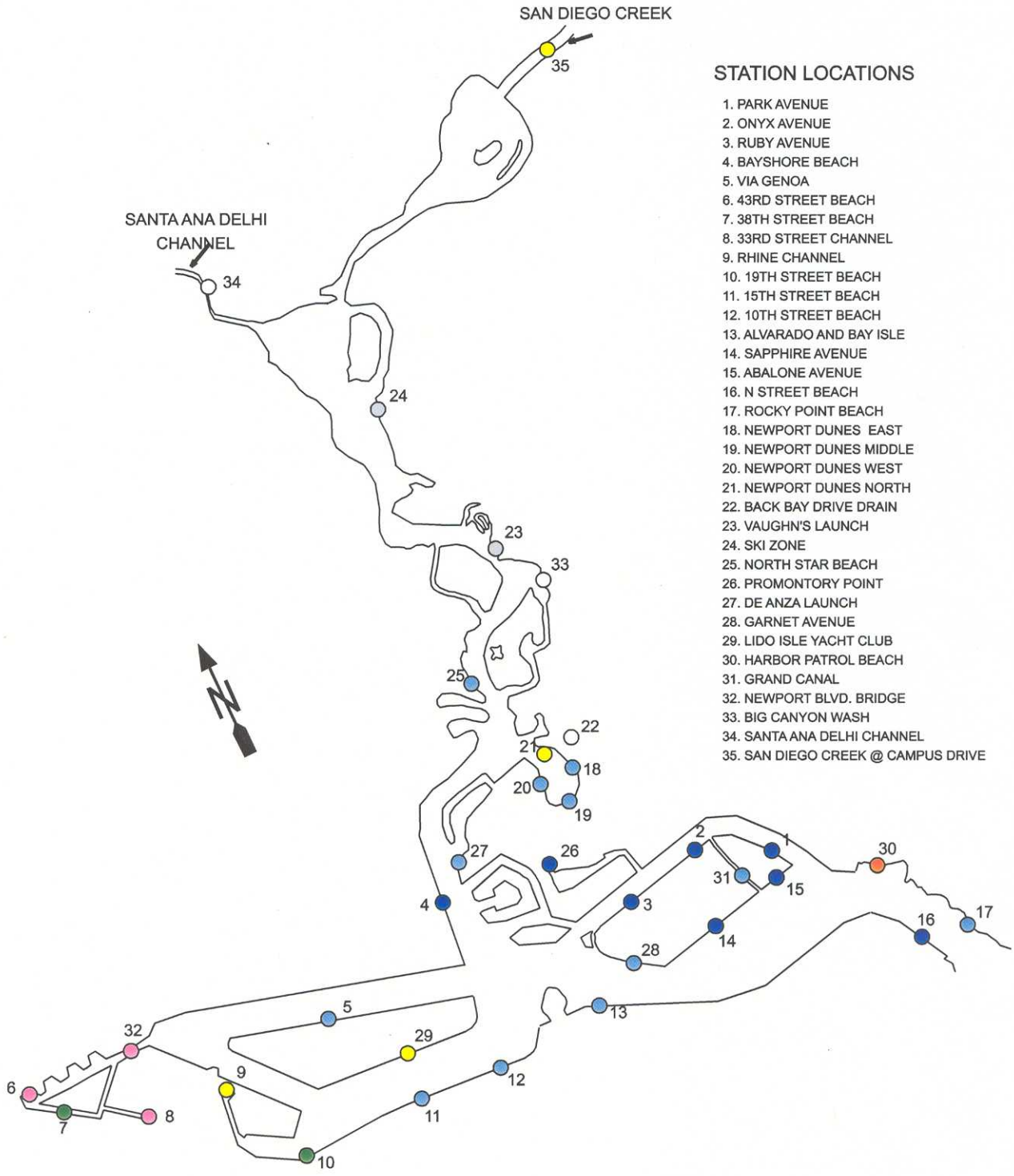

| NA | ID | 0% - 14% | 15% - 29% | 30% - 44% | 45% - 59% | 60% - 74% | 75% - 89% | 90% - 100% |
|---|---|---|---|---|---|---|---|---|

NA = Not evaluated. Not assigned REC-1 standards.

ID = Insufficient data to calculate a representative percentage value for site

# FIGURE 4

## Percentage of Time REC-1 Fecal Coliform Objective Met (200 MPN/100mL Geomean and non-exceedance of 400CFU/100mL) for 2001-2003 Dry Seasons (April 15 - October 15)




### STATION LOCATIONS

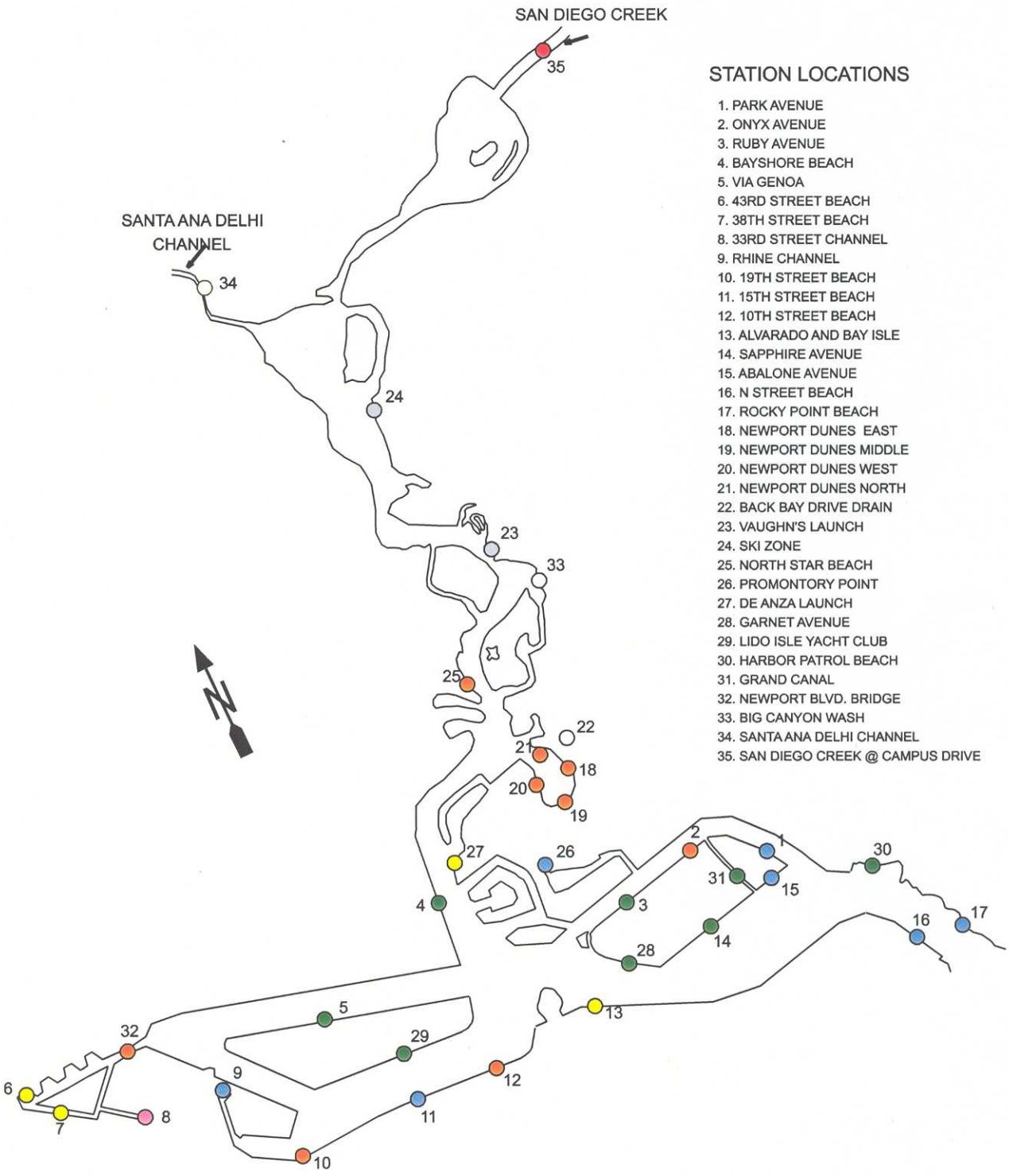
1. PARK AVENUE
2. ONYX AVENUE
3. RUBY AVENUE
4. BAYSHORE BEACH
5. VIA GENOA
6. 43RD STREET BEACH
7. 38TH STREET BEACH
8. 33RD STREET CHANNEL
9. RHINE CHANNEL
10. 19TH STREET BEACH
11. 15TH STREET BEACH
12. 10TH STREET BEACH
13. ALVARADO AND BAY ISLE
14. SAPPHIRE AVENUE
15. ABALONE AVENUE
16. N STREET BEACH
17. ROCKY POINT BEACH
18. NEWPORT DUNES EAST
19. NEWPORT DUNES MIDDLE
20. NEWPORT DUNES WEST
21. NEWPORT DUNES NORTH
22. BACK BAY DRIVE DRAIN
23. VAUGHN'S LAUNCH
24. SKI ZONE
25. NORTH STAR BEACH
26. PROMONTORY POINT
27. DE ANZA LAUNCH
28. GARNET AVENUE
29. LIDO ISLE YACHT CLUB
30. HARBOR PATROL BEACH
31. GRAND CANAL
32. NEWPORT BLVD. BRIDGE
33. BIG CANYON WASH
34. SANTA ANA DELHI CHANNEL
35. SAN DIEGO CREEK @ CAMPUS DRIVE

| NA | ID | 0% - 14% | 15% - 29% | 30% - 44% | 45% - 59% | 60% - 74% | 75% - 89% | 90% - 100% |
|---|---|---|---|---|---|---|---|---|

NA = Not evaluated. Not assigned REC-1 standards.
ID = Insufficient data to calculate a representative percentage value for site.

# FIGURE 5

## Percentage of Time REC-1 Fecal Coliform Objective Met (200 MPN/100mL Geomean and non-exceedance of 400CFU/100mL) for 2001-2004 Wet Seasons (October 16 - April 14)




| NA | ID | 0% - 14% | 15% - 29% | 30% - 44% | 45% - 59% | 60% - 74% | 75% - 89% | 90% - 100% |
|---|---|---|---|---|---|---|---|---|

NA = Not evaluated. Not assigned REC-1 standards.

ID = Insufficient data to calculate a representative percentage value for site

# TABLES

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### LOWER BAY STATIONS

(Concentrations in CFU/100 mL)

| | 43rd Street Beach | | | 38th Street Beach | | | 33rd Street Channel | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| 7-Apr-03 | 40 | <10 | 30 | 4400 | 30 | 100 | Cw/C | 2600 | 180 |
| 14-Apr-03 | >7000 | >1260 | 1840 | >12000 | 2000 | 1740 | Cw/C | 2600 | 3800 |
| 21-Apr-03 | >520 | 20 | 80 | 150 | 80 | 40 | 22400 | <10 | 70 |
| 30-Apr-03 | 2000 | 350 | 150 | 50 | 70 | 50 | >1000 | <10 | 30 |
| 5-May-03 | >8600 | 430 | 10 | 2400 | 160 | <10 | 400 | <10 | <10 |
| 12-May-03 | 620 | 210 | 20 | 30 | <10 | <10 | >1530 | 20 | 70 |
| 19-May-03 | 200 | 50 | <10 | 40 | 20 | 20 | >4000 | 1460 | 5600 |
| 27-May-03 | 150 | 30 | 40 | 190 | 30 | 30 | 270 | 10 | <10 |
| 2-Jun-03 | 5000 | 140 | 180 | 30 | 10 | <10 | 20 | <10 | <10 |
| 9-Jun-03 | 3400 | 2000 | 110 | 20 | <10 | 20 | Cw/C | 380 | 290 |
| 16-Jun-03 | 4400 | 1420 | 390 | 510 | 80 | 20 | 160 | 30 | 10 |
| 23-Jun-03 | 2800 | 230 | 240 | 50 | 30 | 30 | >70 | 10 | 70 |
| 30-Jun-03 | 8000 | 2400 | 500 | >120 | <10 | 30 | 50 | 10 | <10 |
| 7-Jul-03 | Cw/C | 2200 | 290 | Cw/C | 23400 | 17000 | Cw/C | TNTC | 1300 |
| 14-Jul-03 | Cw/C | >3800 | 720 | 2000 | >40 | 20 | 130 | 30 | 50 |
| 21-Jul-03 | 50 | 30 | <10 | 600 | 220 | <10 | >600 | 70 | <10 |
| 28-Jul-03 | >870 | 110 | <10 | >60 | 20 | <10 | Cw/C | Cw/C | 610 |
| 4-Aug-03 | 490 | 430 | <10 | 20 | 10 | <10 | 10 | <10 | <10 |
| 11-Aug-03 | 8200 | >880 | 30 | 2000 | 380 | 220 | 200 | 140 | 1420 |
| 21-Aug-03 | 50 | 10 | 20 | 2000 | 550 | 20 | Cw/C | >60 | 130 |
| 25-Aug-03 | >540 | 80 | 48 | >2000 | 100 | 27 | Cw/Oc | >800 | 2000 |
| 2-Sep-03 | >500 | 80 | 60 | >220 | 120 | 10 | 20 | 10 | 10 |
| 8-Sep-03 | >510 | 100 | 110 | >100 | 20 | 10 | >100 | 20 | <10 |
| 15-Sep-03 | 10 | 10 | 50 | 70 | 60 | <10 | 150 | 30 | 10 |
| 22-Sep-03 | 820 | 100 | 10 | 400 | 50 | <10 | >210 | 80 | 70 |
| 29-Sep-03 | 180 | 70 | 70 | 100 | <10 | 10 | 30 | 10 | <10 |
| 6-Oct-03 | 200 | <10 | <10 | >390 | 20 | <10 | >29200 | 40 | <10 |
| 14-Oct-03 | 570 | 420 | <10 | 290 | 40 | 10 | 100 | 50 | 40 |
| 20-Oct-03 | 110 | 20 | <10 | 100 | <10 | 10 | 30 | <10 | <10 |
| 27-Oct-03 | 220 | 70 | <10 | 180 | 30 | 60 | 100 | 50 | 10 |
| 3-Nov-03 | >1080 | 100 | 36 | >910 | 40 | 62 | 9000 | 290 | 110 |
| 12-Nov-03 | 50 | <10 | 8 | 80 | 10 | 34 | 160 | <10 | 8 |
| 17-Nov-03 | 13000 | 160 | 30 | 2600 | 30 | 30 | Cw/C | >190 | 246 |
| 24-Nov-03 | 100 | 30 | 20 | 210 | 100 | 4 | 80 | 20 | 2 |
| 1-Dec-03 | 180 | 70 | 10 | 40 | 10 | 4 | 20 | <10 | 8 |
| 9-Dec-03 | 440 | 30 | 4 | 670 | 60 | 6 | TNTC | 190 | 78 |
| 15-Dec-03 | 17000 | 1020 | 600 | Cw/C | 1000 | 2800 | >11000 | 540 | 10000 |
| 22-Dec-03 | 140 | 40 | 10 | 80 | 40 | 22 | 50 | 10 | <2 |
| 29-Dec-03 | 6000 | 2400 | 160 | >970 | 120 | 92 | 440 | 50 | 96 |
| 5-Jan-04 | 150 | <10 | 6 | 3400 | 70 | 190 | 230 | <10 | 4 |
| 12-Jan-04 | 790 | 240 | 38 | 2050 | 980 | 120 | 180 | 50 | 10 |
| 20-Jan-04 | 770 | 30 | 28 | 60 | <10 | 10 | 2000 | 20 | 84 |
| 26-Jan-04 | 220 | 10 | 10 | 800 | 120 | 20 | 26200 | 260 | 372 |
| 2-Feb-04 | 1570 | 10 | 70 | 20 | <10 | 10 | 740 | <10 | 10 |
| 9-Feb-04 | 100 | <10 | 10 | 40 | <10 | 40 | 120 | <10 | 20 |
| 17-Feb-04 | 440 | <10 | 190 | TNTC | 20800 | 1000 | 8800 | 10 | 259 |
| 23-Feb-04 | TNTC | 290 | TNTC | TNTC | 340 | 2800 | 29000 | 6600 | 6200 |
| 1-Mar-04 | 430 | 120 | 10 | 140 | 30 | 22 | 120 | 30 | 6 |
| 8-Mar-04 | 180 | 20 | 20 | 410 | 30 | 8 | 80 | <10 | 10 |
| 15-Mar-04 | <10 | <10 | <10 | <10 | <10 | 2 | 9600 | 50 | 64 |
| 22-Mar-04 | 1410 | 710 | 40 | 120 | 30 | 8 | 40 | 10 | 8 |
| 31-Mar-04 | >3000 | 910 | 180 | >160 | <10 | 2 | >250 | 100 | 52 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Data provided by County of Orange Health Care Agency

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### LOWER BAY STATIONS

(Concentrations in CFU/100 mL)

| | Lido Yacht Club Beach | | | Via Genoa Beach | | | Newport Blvd. Bridge | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| 7-Apr-03 | <10 | <10 | <10 | 60 | 10 | <10 | >800 | 30 | 50 |
| 14-Apr-03 | 220 | 20 | 20 | >1160 | 180 | 220 | >27200 | 3000 | 4000 |
| 21-Apr-03 | 3800 | 2600 | 100 | 180 | 50 | <10 | TNTC | >15000 | 520 |
| 30-Apr-03 | 20 | <10 | <10 | 10 | <10 | <10 | 11000 | 2400 | 12000 |
| 5-May-03 | >8800 | 970 | <10 | >20000 | 270 | <10 | >21800 | 890 | <10 |
| 12-May-03 | <10 | <10 | 10 | 20 | <10 | <10 | 5200 | 580 | 60 |
| 19-May-03 | 10 | <10 | 40 | 110 | 20 | <10 | >16000 | >100 | 470 |
| 27-May-03 | 30 | <10 | 10 | 40 | <10 | <10 | 750 | 780 | <10 |
| 2-Jun-03 | <10 | <10 | <10 | 40 | 10 | <10 | 290 | 180 | <10 |
| 9-Jun-03 | 130 | 40 | 40 | 120 | 30 | <10 | >17000 | 1000 | 80 |
| 16-Jun-03 | 50 | <10 | <10 | 70 | 10 | <10 | Cw/C | 8400 | 620 |
| 23-Jun-03 | 30 | <10 | <10 | 20 | 10 | <10 | 20 | <10 | <10 |
| 30-Jun-03 | 20 | 20 | 10 | 20 | 10 | <10 | 6200 | >340 | 540 |
| 7-Jul-03 | 40 | 30 | <10 | 20 | 30 | 10 | >6600 | >330 | 70 |
| 14-Jul-03 | 80 | <10 | 10 | 30 | 20 | <10 | Cw/C | 3600 | 4200 |
| 21-Jul-03 | <10 | <10 | <10 | >150 | 180 | <10 | 480 | 150 | <10 |
| 28-Jul-03 | 10 | <10 | <10 | 220 | 50 | <10 | 380 | 80 | 10 |
| 4-Aug-03 | 10 | <10 | <10 | <10 | 10 | <10 | 60 | 70 | <10 |
| 11-Aug-03 | 70 | 20 | <10 | 60 | 30 | 10 | >880 | 100 | 100 |
| 21-Aug-03 | 30 | 10 | 10 | 40 | <10 | <10 | 100 | 10 | <10 |
| 25-Aug-03 | 50 | <10 | 8 | 30 | 10 | 4 | 360 | 50 | 46 |
| 2-Sep-03 | 30 | <10 | <10 | 50 | <10 | <10 | 5400 | >100 | 230 |
| 8-Sep-03 | 50 | 20 | 1000 | 270 | 80 | 10 | 500 | 140 | 290 |
| 15-Sep-03 | 20 | 10 | <10 | 30 | <10 | <10 | 710 | 100 | 110 |
| 22-Sep-03 | 10 | <10 | <10 | 2000 | 70 | <10 | 230 | 50 | <10 |
| 29-Sep-03 | 80 | 10 | <10 | 40 | 70 | <10 | 320 | 20 | <10 |
| 6-Oct-03 | 100 | 50 | 40 | 80 | 10 | <10 | 5600 | 2200 | 50 |
| 14-Oct-03 | 10 | <10 | <10 | 80 | 10 | <10 | 800 | 110 | 40 |
| 20-Oct-03 | <10 | <10 | <10 | 10 | <10 | <10 | <10 | 20 | <10 |
| 27-Oct-03 | 80 | <10 | 10 | <10 | <10 | <10 | 240 | 100 | 40 |
| 3-Nov-03 | TNTC | >400 | 42 | TNTC | >470 | 130 | TNTC | 330 | 84 |
| 12-Nov-03 | 10 | <10 | 4 | 40 | <10 | <2 | 740 | 70 | 46 |
| 17-Nov-03 | 20 | 10 | <2 | 270 | <10 | 8 | 1500 | 40 | 2 |
| 24-Nov-03 | 670 | 310 | 82 | 60 | 80 | 8 | 210 | 50 | 20 |
| 1-Dec-03 | 20 | 20 | 22 | 20 | <10 | <2 | 110 | 20 | 6 |
| 9-Dec-03 | 460 | 30 | 2 | 160 | 60 | 38 | Cw/C | 250 | 222 |
| 15-Dec-03 | 10 | <10 | 140 | 200 | <10 | 10 | 540 | 20 | 53 |
| 22-Dec-03 | 50 | 10 | <2 | 140 | 100 | 38 | >1610 | 290 | 26 |
| 29-Dec-03 | 360 | 20 | 20 | 500 | 30 | 22 | 580 | 40 | 46 |
| 5-Jan-04 | 350 | 10 | 6 | >1110 | 730 | 140 | >900 | <10 | 22 |
| 12-Jan-04 | 10 | <10 | 20 | 50 | <10 | 10 | 450 | 220 | 60 |
| 20-Jan-04 | 60 | 20 | 38 | 20 | 20 | 6 | TNTC | 250 | 190 |
| 26-Jan-04 | <10 | <10 | 6 | 20 | 10 | <2 | 250 | <10 | 48 |
| 2-Feb-04 | <10 | <10 | 2 | <10 | 10 | 2 | >14000 | 750 | 327 |
| 9-Feb-04 | <10 | <10 | <2 | 20 | 20 | 2 | 300 | 140 | 34 |
| 17-Feb-04 | 30 | 50 | 8 | 40 | 30 | 2 | 21000 | 190 | 170 |
| 23-Feb-04 | TNTC | 400 | 9400 | 32800 | 2000 | 4800 | 34400 | 800 | 2000 |
| 1-Mar-04 | >210 | 20 | 10 | 110 | 20 | 20 | >760 | 170 | 32 |
| 8-Mar-04 | 80 | 20 | 20 | 40 | 10 | 24 | 1500 | 80 | 7200 |
| 15-Mar-04 | 20 | 10 | 24 | 10 | <10 | 2 | Cw/C | 990 | 7400 |
| 22-Mar-04 | <10 | <10 | <2 | 20 | 30 | 20 | 440 | 10 | 20 |
| 31-Mar-04 | <10 | <10 | 20 | <10 | <10 | <2 | >200 | 40 | 38 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Data provided by County of Orange Health Care Agency

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### LOWER BAY STATIONS

(Concentrations in CFU/100 mL)

| | Rhine Channel | | | 19th Street Beach | | | 15th Street Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| 7-Apr-03 | 60 | <10 | 20 | 10 | <10 | <10 | 20 | <10 | 220 |
| 14-Apr-03 | 4600 | 500 | 1140 | 190 | 20 | 30 | 210 | 30 | 100 |
| 21-Apr-03 | 100 | <10 | 20 | 180 | 10 | <10 | 120 | <10 | 150 |
| 30-Apr-03 | 40 | 30 | <10 | 80 | <10 | <10 | 80 | 40 | 20 |
| 5-May-03 | >32400 | 600 | 10 | TNTC | 950 | <10 | TNTC | 830 | <10 |
| 12-May-03 | 370 | <10 | 20 | 20 | <10 | <10 | <10 | 10 | 10 |
| 19-May-03 | 50 | 40 | <10 | >1300 | 30 | 10 | <10 | 10 | <10 |
| 27-May-03 | 80 | 30 | 10 | 360 | 10 | <10 | 150 | 10 | <10 |
| 2-Jun-03 | 190 | 110 | 50 | 10 | <10 | <10 | 40 | <10 | <10 |
| 9-Jun-03 | >1100 | 130 | 50 | 100 | 10 | <10 | 130 | 10 | <10 |
| 16-Jun-03 | >580 | 80 | 70 | 5400 | 80 | <10 | >100 | 70 | <10 |
| 23-Jun-03 | 100 | 50 | <10 | 230 | 60 | <10 | 100 | 80 | 40 |
| 30-Jun-03 | 100 | 20 | 40 | 60 | 20 | 10 | 150 | 20 | <10 |
| 7-Jul-03 | 280 | 30 | <10 | >40 | 10 | <10 | 170 | 20 | 10 |
| 14-Jul-03 | 180 | 60 | 30 | 1000 | 270 | 50 | >10 | 20 | 10 |
| 21-Jul-03 | 280 | 70 | <10 | 30 | 20 | <10 | 20 | 30 | <10 |
| 28-Jul-03 | 100 | 30 | 10 | 330 | 20 | <10 | 160 | 70 | 10 |
| 4-Aug-03 | 11000 | 20 | <10 | 80 | <10 | <10 | 20 | <10 | 10 |
| 11-Aug-03 | 200 | 50 | <10 | 440 | 40 | 20 | 30 | 20 | 20 |
| 21-Aug-03 | 110 | 100 | <10 | 30 | <10 | <10 | 80 | 10 | <10 |
| 25-Aug-03 | 160 | 20 | 4 | 2400 | 100 | 27 | 10 | 10 | 20 |
| 2-Sep-03 | 80 | 10 | 10 | 30 | <10 | <10 | 60 | <10 | <10 |
| 8-Sep-03 | 770 | 480 | 10 | 360 | 40 | <10 | 70 | 10 | 10 |
| 15-Sep-03 | 70 | <10 | <10 | 140 | 10 | <10 | 10 | <10 | 10 |
| 22-Sep-03 | 100 | 10 | <10 | 30 | 10 | <10 | 20 | <10 | <10 |
| 29-Sep-03 | 260 | 50 | <10 | 310 | 150 | 40 | 150 | <10 | <10 |
| 6-Oct-03 | 460 | 30 | <10 | 80 | 10 | 10 | <10 | <10 | <10 |
| 14-Oct-03 | 100 | 20 | 20 | 30 | <10 | <10 | 60 | <10 | <10 |
| 20-Oct-03 | 140 | 20 | <10 | 80 | <10 | <10 | 40 | 30 | <10 |
| 27-Oct-03 | 80 | 10 | 10 | 280 | 10 | <10 | 80 | 30 | <10 |
| 3-Nov-03 | 220 | 10 | 6 | >400 | 20 | 10 | >26200 | >240 | 86 |
| 12-Nov-03 | 80 | <10 | 4 | 370 | 250 | 76 | 130 | <10 | <2 |
| 17-Nov-03 | 860 | 40 | 2 | 430 | 10 | 10 | 120 | 20 | 20 |
| 24-Nov-03 | 50 | 10 | 4 | 60 | <10 | 36 | 70 | <10 | 10 |
| 1-Dec-03 | 150 | 40 | 36 | >1140 | 120 | 34 | 80 | <10 | 2 |
| 9-Dec-03 | 140 | <10 | 6 | 420 | 10 | 20 | 660 | 30 | 20 |
| 15-Dec-03 | 180 | 110 | 20 | 400 | 40 | 32 | 110 | 10 | 10 |
| 22-Dec-03 | 270 | <10 | <2 | 60 | 100 | 8 | 40 | 10 | <2 |
| 29-Dec-03 | 530 | <10 | 20 | 1000 | 10 | 34 | 410 | 10 | 10 |
| 5-Jan-04 | 360 | 10 | 6 | >930 | 30 | 2 | >440 | <10 | 2 |
| 12-Jan-04 | 40 | 10 | 20 | 610 | 560 | 2000 | 10 | <10 | 8 |
| 20-Jan-04 | 140 | 10 | 10 | <10 | 10 | 4 | 20 | <10 | 42 |
| 26-Jan-04 | <10 | <10 | <2 | 140 | 50 | 32 | <10 | <10 | <2 |
| 2-Feb-04 | 100 | 30 | 4 | 40 | 10 | 2 | 70 | <10 | 4 |
| 9-Feb-04 | <10 | 10 | <2 | 20 | <10 | 4 | 10 | <10 | <2 |
| 17-Feb-04 | 110 | <10 | 2 | 80 | 10 | 34 | 80 | 10 | 4 |
| 23-Feb-04 | TNTC | 270 | 2000 | 37600 | 1000 | 4000 | TNTC | 600 | 3200 |
| 1-Mar-04 | 210 | 30 | 10 | 370 | 400 | 110 | >150 | 1070 | 170 |
| 8-Mar-04 | 20 | <10 | <2 | <10 | 10 | 2 | 30 | <10 | 10 |
| 15-Mar-04 | 140 | <10 | 4 | 20 | 40 | <2 | 40 | <10 | 2 |
| 22-Mar-04 | 120 | 40 | 4 | 100 | 20 | 2 | 40 | <10 | 4 |
| 31-Mar-04 | >80 | 20 | 30 | 40 | 40 | <2 | 10 | 20 | 10 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Data provided by County of Orange Health Care Agency

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### LOWER BAY STATIONS

(Concentrations in CFU/100 mL)

| | 10th Street Beach | | | Alvarado/ Bay Isle Beach | | | N Street Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| 7-Apr-03 | 140 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| 14-Apr-03 | 2000 | 100 | 450 | 140 | 100 | 100 | >910 | 260 | 210 |
| 21-Apr-03 | >250 | 120 | 20 | 210 | 60 | 70 | 240 | 200 | 30 |
| 30-Apr-03 | <10 | <10 | 10 | <10 | 20 | 20 | <10 | <10 | <10 |
| 5-May-03 | 5000 | 70 | 10 | >16000 | 410 | 10 | >600 | 20 | 10 |
| 12-May-03 | 30 | <10 | <10 | 30 | <10 | 30 | 20 | <10 | <10 |
| 19-May-03 | 10 | 10 | 10 | 20 | 10 | 10 | 100 | 100 | <10 |
| 27-May-03 | <10 | <10 | <10 | 10 | 10 | <10 | 50 | <10 | <10 |
| 2-Jun-03 | 40 | <10 | 10 | <10 | 10 | 10 | <10 | 10 | <10 |
| 9-Jun-03 | 60 | 50 | 10 | 40 | 70 | <10 | 30 | 20 | 20 |
| 16-Jun-03 | 30 | 10 | <10 | 80 | 10 | 20 | 10 | <10 | <10 |
| 23-Jun-03 | <10 | <10 | 10 | 30 | 20 | 10 | 30 | 10 | <10 |
| 30-Jun-03 | <10 | 10 | 10 | 40 | 50 | <10 | 30 | <10 | 10 |
| 7-Jul-03 | 1260 | 930 | 10 | 100 | 10 | <10 | 30 | 20 | 10 |
| 14-Jul-03 | 60 | 20 | <10 | 60 | 10 | <10 | 20 | 80 | 10 |
| 21-Jul-03 | >60 | 80 | 10 | <10 | 30 | 10 | <10 | <10 | 10 |
| 28-Jul-03 | <10 | 10 | 10 | 40 | 20 | 10 | 30 | <10 | <10 |
| 4-Aug-03 | 20 | 10 | <10 | 20 | <10 | 10 | 30 | 10 | <10 |
| 11-Aug-03 | 170 | 180 | 170 | 50 | 30 | 10 | 70 | 100 | <10 |
| 21-Aug-03 | 770 | 660 | 230 | 30 | <10 | 10 | <10 | <10 | <10 |
| 25-Aug-03 | 60 | 30 | 98 | 50 | 20 | 6 | <10 | <10 | <2 |
| 2-Sep-03 | 200 | 170 | 120 | 1240 | 20 | 30 | <10 | 20 | <10 |
| 8-Sep-03 | 130 | 30 | 20 | 30 | 10 | <10 | <10 | <10 | <10 |
| 15-Sep-03 | 10 | <10 | <10 | 20 | 10 | <10 | 50 | 20 | <10 |
| 22-Sep-03 | 70 | 20 | 10 | 30 | 20 | 10 | 1180 | 990 | 20 |
| 29-Sep-03 | 80 | 40 | 80 | 50 | 20 | <10 | 30 | 10 | <10 |
| 6-Oct-03 | 30 | 70 | 10 | 20 | 20 | <10 | 200 | 30 | <10 |
| 14-Oct-03 | 150 | 180 | 40 | 900 | 20 | 10 | <10 | <10 | <10 |
| 20-Oct-03 | 20 | 40 | <10 | 10 | <10 | <10 | 10 | 10 | <10 |
| 27-Oct-03 | 50 | 10 | 10 | 50 | <10 | 20 | <10 | <10 | <10 |
| 3-Nov-03 | >33400 | 560 | 94 | TNTC | 400 | 60 | 340 | 10 | 4 |
| 12-Nov-03 | 590 | 460 | 160 | 40 | 10 | <2 | 10 | <10 | <2 |
| 17-Nov-03 | 200 | 50 | 26 | 60 | 10 | 10 | 40 | <10 | 2 |
| 24-Nov-03 | 1920 | 1770 | 319 | 160 | 80 | 120 | 30 | <10 | <2 |
| 1-Dec-03 | 70 | 80 | 130 | 40 | 10 | 34 | 20 | <10 | 10 |
| 9-Dec-03 | 340 | 20 | 8 | 660 | 280 | 10 | 10 | <10 | 8 |
| 15-Dec-03 | 170 | 100 | 180 | 140 | 10 | 26 | 30 | 10 | <2 |
| 22-Dec-03 | 80 | 30 | 8 | 60 | 110 | 26 | 20 | <10 | 2 |
| 29-Dec-03 | 990 | 320 | 1000 | 660 | 150 | 26 | 390 | 20 | 20 |
| 5-Jan-04 | 610 | 30 | 10 | >1100 | 30 | 20 | 130 | 10 | 6 |
| 12-Jan-04 | 40 | 10 | 54 | 30 | 30 | 2 | 10 | <10 | <2 |
| 20-Jan-04 | 410 | 240 | 600 | 300 | 260 | 98 | 50 | 10 | 2 |
| 26-Jan-04 | <10 | <10 | 24 | <10 | <10 | 6 | <10 | 10 | <2 |
| 2-Feb-04 | 40 | 10 | 8 | <10 | <10 | 10 | 20 | 20 | 2 |
| 9-Feb-04 | 60 | <10 | 20 | 30 | <10 | 2 | <10 | <10 | <2 |
| 17-Feb-04 | 100 | 20 | 22 | 50 | <10 | 388 | 80 | 20 | 2 |
| 23-Feb-04 | TNTC | 2000 | 5800 | TNTC | 1000 | 7600 | 34400 | 260 | 600 |
| 1-Mar-04 | 370 | 260 | 253 | 100 | 40 | 42 | 12000 | 10 | 200 |
| 8-Mar-04 | 80 | 10 | 20 | 50 | <10 | 32 | 10 | <10 | 2 |
| 15-Mar-04 | 20 | <10 | 2 | <10 | 10 | 10 | 100 | 120 | 10 |
| 22-Mar-04 | 30 | 30 | 8 | <10 | <10 | 6 | <10 | <10 | 2 |
| 31-Mar-04 | 100 | 110 | 6 | 10 | 20 | 2 | <10 | <10 | <2 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Data provided by County of Orange Health Care Agency

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### LOWER BAY STATIONS

(Concentrations in CFU/100 mL)

| | Garnet Avenue Beach | | | Ruby Avenue Beach | | | Sapphire Avenue Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| 7-Apr-03 | 50 | 70 | 10 | 70 | <10 | <10 | <10 | <10 | <10 |
| 14-Apr-03 | >110 | 60 | 70 | 100 | 40 | 150 | >10 | 20 | 70 |
| 21-Apr-03 | >540 | 60 | 100 | 70 | <10 | <10 | 100 | 30 | 30 |
| 30-Apr-03 | 70 | 40 | <10 | 80 | 30 | <10 | <10 | <10 | <10 |
| 5-May-03 | >16000 | 340 | <10 | 7000 | 70 | <10 | >25600 | 490 | <10 |
| 12-May-03 | 30 | <10 | <10 | 20 | <10 | 20 | <10 | 10 | <10 |
| 19-May-03 | 130 | 100 | 40 | 10 | 10 | <10 | 10 | <10 | <10 |
| 27-May-03 | 70 | 40 | 10 | 90 | 10 | <10 | <10 | <10 | <10 |
| 2-Jun-03 | 60 | 30 | <10 | 30 | <10 | 10 | 70 | 80 | 20 |
| 9-Jun-03 | 80 | 40 | 30 | <10 | <10 | <10 | 400 | 260 | 10 |
| 16-Jun-03 | <10 | <10 | 10 | 20 | <10 | <10 | 100 | 70 | 50 |
| 23-Jun-03 | 20 | 10 | 10 | 10 | <10 | <10 | 70 | 40 | 10 |
| 30-Jun-03 | 100 | 60 | 50 | 50 | <10 | 20 | 50 | 20 | 40 |
| 7-Jul-03 | 50 | 20 | 10 | 60 | 20 | <10 | 20 | 20 | <10 |
| 14-Jul-03 | >200 | 110 | 40 | 10 | 10 | 10 | 10 | 10 | <10 |
| 21-Jul-03 | 2600 | 2400 | 290 | 20 | <10 | 20 | 30 | 50 | <10 |
| 28-Jul-03 | 100 | 70 | 10 | 80 | 30 | <10 | 10 | 20 | 20 |
| 4-Aug-03 | 210 | 80 | 100 | 30 | 10 | <10 | 50 | 30 | 50 |
| 11-Aug-03 | 130 | 80 | 30 | 60 | 10 | 10 | 10 | <10 | 10 |
| 21-Aug-03 | >100 | 20 | <10 | 60 | <10 | <10 | 10 | <10 | <10 |
| 25-Aug-03 | 190 | 260 | 56 | 50 | 20 | 2 | 30 | <10 | 2 |
| 2-Sep-03 | 80 | 30 | <10 | 60 | <10 | 10 | <10 | 20 | 50 |
| 8-Sep-03 | 390 | 480 | 40 | 50 | <10 | <10 | 50 | 10 | 80 |
| 15-Sep-03 | 150 | 100 | 20 | 20 | <10 | <10 | 20 | 10 | 10 |
| 22-Sep-03 | >60 | 40 | 30 | 290 | 80 | <10 | 10 | 20 | <10 |
| 29-Sep-03 | 40 | 10 | <10 | 40 | <10 | <10 | 50 | <10 | 10 |
| 6-Oct-03 | 60 | 30 | <10 | 750 | 930 | 30 | 30 | <10 | 10 |
| 14-Oct-03 | 260 | 130 | <10 | 10 | 10 | <10 | >50 | 10 | 30 |
| 20-Oct-03 | 1670 | 60 | 10 | <10 | <10 | <10 | 100 | 80 | <10 |
| 27-Oct-03 | 40 | 10 | <10 | 70 | 30 | 10 | 30 | 10 | <10 |
| 3-Nov-03 | TNTC | 470 | 68 | TNTC | 680 | 140 | 26800 | 260 | 44 |
| 12-Nov-03 | 50 | <10 | <2 | 460 | 370 | 58 | 60 | 10 | 130 |
| 17-Nov-03 | 70 | <10 | 8 | 20 | <10 | 4 | 20 | <10 | <2 |
| 24-Nov-03 | 30 | 10 | 10 | 40 | 40 | 6 | 40 | 10 | 10 |
| 1-Dec-03 | 70 | <10 | 4 | 70 | 10 | 4 | 30 | <10 | <2 |
| 9-Dec-03 | 460 | <10 | 2 | 80 | 20 | 4 | <10 | 10 | 24 |
| 15-Dec-03 | 50 | <10 | 10 | 20 | 10 | 6 | 10 | <10 | 4 |
| 22-Dec-03 | 30 | 10 | 2 | 70 | 20 | 20 | 130 | 10 | 10 |
| 29-Dec-03 | 450 | <10 | 10 | 510 | 10 | 10 | 240 | <10 | 8 |
| 5-Jan-04 | >1340 | 110 | 24 | 780 | 20 | 24 | 650 | 10 | <2 |
| 12-Jan-04 | 40 | <10 | <2 | 40 | 20 | <2 | 10 | <10 | 6 |
| 20-Jan-04 | 20 | <10 | 4 | 200 | 100 | 62 | <10 | 10 | <2 |
| 26-Jan-04 | 20 | <10 | <2 | <10 | <10 | 6 | <10 | <10 | 2 |
| 2-Feb-04 | <10 | 10 | 30 | <10 | <10 | <2 | <10 | <10 | <2 |
| 9-Feb-04 | 60 | <10 | 4 | 80 | 10 | 4 | 20 | <10 | <2 |
| 17-Feb-04 | 210 | <10 | 6 | 30 | <10 | 2 | <10 | 10 | <2 |
| 23-Feb-04 | TNTC | 1000 | 2200 | TNTC | 1000 | 2000 | 37600 | 180 | 800 |
| 1-Mar-04 | >190 | 30 | 40 | 230 | 220 | 22 | >350 | 280 | 190 |
| 8-Mar-04 | 80 | 20 | 8 | 60 | 10 | 10 | 50 | <10 | <2 |
| 15-Mar-04 | 70 | <10 | 20 | 30 | <10 | 4 | 40 | 20 | 8 |
| 22-Mar-04 | 20 | <10 | 2 | 40 | 20 | 2 | 10 | <10 | 4 |
| 31-Mar-04 | >20 | 20 | 20 | <10 | <10 | <2 | 30 | <10 | <2 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Data provided by County of Orange Health Care Agency

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### LOWER BAY STATIONS

(Concentrations in CFU/100 mL)

| | Grand Canal | | | Abalone Avenue Beach | | | Park Avenue Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| 7-Apr-03 | 330 | 10 | 30 | <10 | <10 | <10 | 20 | <10 | <10 |
| 14-Apr-03 | >680 | 120 | 820 | >220 | 100 | 30 | >16000 | >1620 | 3800 |
| 21-Apr-03 | 170 | 70 | 260 | 110 | 10 | 40 | 100 | <10 | 20 |
| 30-Apr-03 | 340 | 290 | <10 | 10 | <10 | 10 | 100 | <10 | 10 |
| 5-May-03 | 10000 | 250 | 50 | >17000 | 290 | 20 | >20200 | 270 | <10 |
| 12-May-03 | 80 | <10 | 10 | 30 | 30 | 10 | 40 | 10 | <10 |
| 19-May-03 | 10 | 10 | <10 | 60 | 10 | <10 | 70 | 40 | 10 |
| 27-May-03 | 30 | 10 | <10 | 10 | <10 | <10 | 100 | <10 | <10 |
| 2-Jun-03 | <10 | <10 | <10 | 250 | 110 | 80 | 30 | <10 | 10 |
| 9-Jun-03 | 80 | 10 | 70 | 20 | <10 | <10 | 20 | <10 | <10 |
| 16-Jun-03 | 20 | 30 | <10 | 50 | 20 | <10 | 70 | 10 | <10 |
| 23-Jun-03 | 80 | 20 | 50 | 130 | 50 | 30 | 140 | <10 | 20 |
| 30-Jun-03 | 110 | 140 | 10 | <10 | <10 | 20 | 60 | <10 | <10 |
| 7-Jul-03 | 10 | 20 | <10 | 20 | 30 | 10 | 40 | <10 | 10 |
| 14-Jul-03 | 50 | 20 | 20 | 10 | <10 | <10 | 30 | 10 | <10 |
| 21-Jul-03 | 20 | <10 | <10 | >10 | <10 | 10 | 70 | 10 | 110 |
| 28-Jul-03 | >50 | 20 | <10 | 10 | <10 | <10 | 120 | 10 | <10 |
| 4-Aug-03 | 260 | 310 | 70 | 40 | 30 | 10 | 60 | 10 | <10 |
| 11-Aug-03 | 40 | 10 | <10 | 10 | <10 | <10 | 20 | <10 | <10 |
| 21-Aug-03 | 30 | 10 | 30 | 10 | <10 | <10 | 110 | 10 | 60 |
| 25-Aug-03 | 40 | 20 | 10 | 10 | <10 | 2 | 60 | 30 | 2 |
| 2-Sep-03 | 20 | 40 | 20 | 50 | <10 | <10 | 250 | <10 | <10 |
| 8-Sep-03 | 10 | <10 | <10 | <10 | <10 | <10 | 20 | 20 | 10 |
| 15-Sep-03 | 20 | <10 | <10 | 10 | 10 | <10 | 50 | 10 | <10 |
| 22-Sep-03 | 240 | 10 | <10 | >500 | 360 | 310 | 640 | 80 | <10 |
| 29-Sep-03 | <10 | <10 | <10 | 10 | <10 | <10 | <10 | <10 | <10 |
| 6-Oct-03 | 40 | 10 | <10 | 60 | 10 | <10 | 20 | 20 | <10 |
| 14-Oct-03 | 20 | 10 | <10 | >100 | <10 | 20 | 510 | 30 | 10 |
| 20-Oct-03 | 40 | <10 | <10 | 10 | 10 | <10 | 20 | 10 | <10 |
| 27-Oct-03 | 10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 10 |
| 3-Nov-03 | 8400 | 100 | 22 | 7800 | 140 | 68 | 9000 | 40 | 40 |
| 12-Nov-03 | 20 | <10 | <2 | 30 | 10 | 2 | 220 | 20 | 4 |
| 17-Nov-03 | 320 | <10 | 10 | 110 | 10 | 4 | 20 | <10 | 2 |
| 24-Nov-03 | 240 | <10 | 6 | <10 | <10 | 22 | 60 | <10 | 28 |
| 1-Dec-03 | 10 | <10 | 4 | 20 | <10 | <2 | 60 | 10 | 2 |
| 9-Dec-03 | 50 | 10 | 2 | 10 | <10 | 6 | 80 | <10 | 2 |
| 15-Dec-03 | 770 | 530 | 110 | 10 | <10 | 2 | >1040 | <10 | <2 |
| 22-Dec-03 | 60 | <10 | 10 | 250 | 260 | 2400 | 70 | <10 | 10 |
| 29-Dec-03 | 240 | 20 | 6 | 150 | <10 | 4 | 300 | 10 | <2 |
| 5-Jan-04 | 830 | 10 | 2 | 320 | <10 | 2 | 700 | <10 | 4 |
| 12-Jan-04 | <10 | <10 | 2 | 20 | <10 | 6 | 350 | 60 | 2 |
| 20-Jan-04 | 130 | 10 | <2 | 60 | 20 | 150 | 110 | 10 | 84 |
| 26-Jan-04 | 10 | 10 | 10 | <10 | 10 | <2 | 10 | 20 | <2 |
| 2-Feb-04 | 20 | <10 | <2 | <10 | <10 | <2 | <10 | <10 | 2 |
| 9-Feb-04 | 30 | <10 | <2 | 30 | 10 | 4 | 80 | 10 | <2 |
| 17-Feb-04 | 30 | <10 | 2 | 20 | 10 | 4 | 30 | <10 | <2 |
| 23-Feb-04 | 39800 | 180 | 1000 | TNTC | 200 | 1000 | 36800 | 210 | 600 |
| 1-Mar-04 | >210 | 30 | 315 | >330 | 110 | 120 | >200 | 20 | 20 |
| 8-Mar-04 | 40 | 50 | 6 | 10 | <10 | 4 | 880 | <10 | 2 |
| 15-Mar-04 | 120 | <10 | 20 | 40 | 10 | 34 | 20 | <10 | 2 |
| 22-Mar-04 | 70 | <10 | 8 | 100 | 30 | <2 | 30 | <10 | 6 |
| 31-Mar-04 | 20 | 10 | 4 | 50 | 10 | <2 | <10 | <10 | <2 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Data provided by County of Orange Health Care Agency

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### LOWER BAY STATIONS

(Concentrations in CFU/100 mL)

| | Onyx Avenue Beach | | | Promontory Point Channel | | | Harbor Patrol Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| 7-Apr-03 | <10 | <10 | <10 | 30 | <10 | 10 | 400 | 600 | 10 |
| 14-Apr-03 | 4000 | 140 | 410 | >950 | 400 | <10 | <10 | <10 | 210 |
| 21-Apr-03 | 40 | <10 | <10 | 210 | <10 | 10 | Cw/C | 440 | 600 |
| 30-Apr-03 | 120 | <10 | 10 | <10 | <10 | 10 | 80 | 30 | 50 |
| 5-May-03 | 4200 | 120 | 10 | 430 | 10 | <10 | 18000 | 4000 | 470 |
| 12-May-03 | 50 | <10 | 10 | 30 | <10 | 10 | 400 | 190 | 30 |
| 19-May-03 | 20 | <10 | <10 | 20 | <10 | <10 | 1200 | 900 | 20 |
| 27-May-03 | <10 | 10 | <10 | <10 | <10 | <10 | >80 | 20 | 20 |
| 2-Jun-03 | 160 | 30 | 30 | 20 | <10 | <10 | >250 | 210 | 70 |
| 9-Jun-03 | 9600 | 9800 | 210 | 30 | 10 | 40 | >60 | 40 | 10 |
| 16-Jun-03 | 40 | 60 | 10 | 20 | <10 | <10 | 220 | 80 | 50 |
| 23-Jun-03 | Cw/C | <10 | <10 | 20 | 10 | 10 | 130 | 180 | 10 |
| 30-Jun-03 | 40 | 20 | <10 | <10 | <10 | <10 | >480 | 200 | 70 |
| 7-Jul-03 | >30 | 20 | 30 | 10 | >10 | >10 | >80 | 80 | 20 |
| 14-Jul-03 | 40 | <10 | <10 | <10 | <10 | <10 | 3800 | 2400 | 170 |
| 21-Jul-03 | 30 | 20 | <10 | <10 | <10 | <10 | >290 | 350 | <10 |
| 28-Jul-03 | 160 | 10 | <10 | <10 | <10 | <10 | 50 | 110 | 20 |
| 4-Aug-03 | 40 | 20 | 10 | 30 | <10 | 10 | 240 | 140 | 80 |
| 11-Aug-03 | 40 | <10 | <10 | <10 | <10 | <10 | 60 | 60 | 10 |
| 21-Aug-03 | 60 | <10 | <10 | 10 | <10 | <10 | >80 | 80 | 30 |
| 25-Aug-03 | 60 | 30 | 4 | <10 | <10 | <2 | 20 | 30 | 10 |
| 2-Sep-03 | 20 | 20 | 10 | <10 | <10 | <10 | 50 | 30 | <10 |
| 8-Sep-03 | 20 | 20 | 20 | <10 | <10 | <10 | 20 | 10 | <10 |
| 15-Sep-03 | 40 | 10 | <10 | <10 | <10 | <10 | 30 | 20 | 20 |
| 22-Sep-03 | 380 | 40 | 10 | 50 | <10 | <10 | >30 | 10 | <10 |
| 29-Sep-03 | 80 | <10 | <10 | <10 | <10 | <10 | 60 | 10 | 30 |
| 6-Oct-03 | 30 | 10 | <10 | 10 | <10 | <10 | 80 | <10 | 10 |
| 14-Oct-03 | 30 | <10 | <10 | <10 | <10 | <10 | 170 | 30 | 40 |
| 20-Oct-03 | 10 | <10 | <10 | 10 | <10 | <10 | 170 | <10 | <10 |
| 27-Oct-03 | 110 | 40 | 60 | <10 | <10 | <10 | 50 | <10 | <10 |
| 3-Nov-03 | 28600 | 280 | 56 | 3600 | 50 | 20 | 15000 | 100 | 54 |
| 12-Nov-03 | 20 | <10 | 6 | 20 | <10 | <2 | 40 | <10 | 4 |
| 17-Nov-03 | 80 | <10 | <2 | <10 | <10 | 2 | 50 | <10 | 8 |
| 24-Nov-03 | 2400 | 1640 | 86 | 30 | <10 | 2 | 170 | 20 | 22 |
| 1-Dec-03 | 120 | 30 | 12 | <10 | <10 | <2 | 20 | <10 | 8 |
| 9-Dec-03 | 220 | 20 | 24 | 30 | <10 | <2 | 60 | 10 | 10 |
| 15-Dec-03 | 20 | 10 | 2 | 10 | <10 | 2 | <10 | <10 | 4 |
| 22-Dec-03 | 1230 | 490 | 1000 | 40 | <10 | <2 | 130 | <10 | 22 |
| 29-Dec-03 | 240 | 40 | 2 | 100 | <10 | 4 | 220 | 10 | 8 |
| 5-Jan-04 | >1000 | 10 | 24 | 580 | <10 | 2 | 120 | <10 | 2 |
| 12-Jan-04 | 60 | 10 | <2 | 10 | <10 | <2 | 30 | 30 | 2 |
| 20-Jan-04 | 110 | 100 | 20 | 60 | <10 | <2 | 80 | 30 | 6 |
| 26-Jan-04 | 20 | <10 | <2 | <10 | <10 | <2 | 20 | <10 | 2 |
| 2-Feb-04 | 10 | 10 | 10 | 10 | <10 | <2 | 30 | 10 | 4 |
| 9-Feb-04 | 100 | <10 | <2 | 30 | <10 | <2 | 30 | <10 | 6 |
| 17-Feb-04 | 10 | <10 | 60 | <10 | <10 | <2 | <10 | 10 | 30 |
| 23-Feb-04 | TNTC | 140 | 800 | 37200 | 170 | 2000 | 32600 | 300 | 281 |
| 1-Mar-04 | >260 | 830 | 200 | 100 | 10 | 2 | >320 | 70 | 120 |
| 8-Mar-04 | 10 | <10 | 10 | 80 | <10 | 4 | 220 | <10 | 8 |
| 15-Mar-04 | 70 | <10 | 10 | 30 | <10 | 2 | 440 | 190 | 76 |
| 22-Mar-04 | 50 | 10 | <2 | 30 | <10 | 4 | 400 | 240 | 20 |
| 31-Mar-04 | 30 | <10 | 4 | >30 | <10 | <2 | >240 | 150 | 32 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Data provided by County of Orange Health Care Agency

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### LOWER BAY STATIONS

(Concentrations in CFU/100 mL)

| | Rocky Point Beach | | |
|---|---|---|---|
| | TC | FC | ENT |
| 7-Apr-03 | 40 | <10 | <10 |
| 14-Apr-03 | >1100 | 420 | 230 |
| 21-Apr-03 | 10 | <10 | <10 |
| 30-Apr-03 | <10 | <10 | <10 |
| 5-May-03 | >19000 | 380 | <10 |
| 12-May-03 | >50 | 20 | <10 |
| 19-May-03 | <10 | <10 | <10 |
| 27-May-03 | <10 | 10 | 50 |
| 2-Jun-03 | <10 | <10 | <10 |
| 9-Jun-03 | 80 | <10 | <10 |
| 16-Jun-03 | 20 | <10 | <10 |
| 23-Jun-03 | 20 | 10 | <10 |
| 30-Jun-03 | 20 | <10 | <10 |
| 7-Jul-03 | >20 | <10 | <10 |
| 14-Jul-03 | <10 | <10 | <10 |
| 21-Jul-03 | <10 | <10 | <10 |
| 28-Jul-03 | 200 | 110 | 20 |
| 4-Aug-03 | 30 | 20 | <10 |
| 11-Aug-03 | <10 | 10 | <10 |
| 21-Aug-03 | 10 | <10 | <10 |
| 25-Aug-03 | 10 | <10 | 2 |
| 2-Sep-03 | <10 | <10 | <10 |
| 8-Sep-03 | 20 | <10 | <10 |
| 15-Sep-03 | 10 | 20 | <10 |
| 22-Sep-03 | 10 | <10 | <10 |
| 29-Sep-03 | 40 | 30 | 30 |
| 6-Oct-03 | 130 | 10 | 10 |
| 14-Oct-03 | 10 | <10 | <10 |
| 20-Oct-03 | 10 | <10 | <10 |
| 27-Oct-03 | 30 | <10 | 10 |
| 3-Nov-03 | 2000 | 40 | 2000 |
| 12-Nov-03 | 30 | <10 | 4 |
| 17-Nov-03 | 240 | 30 | 64 |
| 24-Nov-03 | 30 | <10 | <2 |
| 1-Dec-03 | 50 | <10 | 22 |
| 9-Dec-03 | 30 | <10 | 10 |
| 15-Dec-03 | 220 | <10 | 4 |
| 22-Dec-03 | 80 | <10 | 10 |
| 29-Dec-03 | 690 | 10 | 36 |
| 5-Jan-04 | 130 | <10 | 8 |
| 12-Jan-04 | 20 | <10 | 2 |
| 20-Jan-04 | 20 | 10 | 10 |
| 26-Jan-04 | 20 | <10 | <2 |
| 2-Feb-04 | <10 | <10 | <2 |
| 9-Feb-04 | 30 | <10 | 4 |
| 17-Feb-04 | 60 | 10 | 10 |
| 23-Feb-04 | 5400 | 20 | 24 |
| 1-Mar-04 | 130 | 30 | 20 |
| 8-Mar-04 | 30 | <10 | 4 |
| 15-Mar-04 | 170 | 10 | 20 |
| 22-Mar-04 | 10 | <10 | 4 |
| 31-Mar-04 | >80 | <10 | 10 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Data provided by County of Orange Health Care Agency

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### UPPER BAY STATIONS

(Concentrations in CFU/100 mL)

| | Newport Dunes - Middle | | | Newport Dunes - West | | | Newport Dunes - East | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| **7-Apr-03** | >120 | 60 | 140 | >230 | 120 | 120 | 4200 | 1250 | 800 |
| **14-Apr-03** | 430 | <10 | 10 | >290 | 10 | <10 | 380 | 10 | <10 |
| **21-Apr-03** | 10 | 10 | <10 | 40 | <10 | <10 | 50 | 20 | 10 |
| **30-Apr-03** | Cw/C | 8400 | 540 | Cw/C | 11000 | 180 | Cw/C | >11000 | 80 |
| **5-May-03** | 70 | 10 | <10 | 180 | <10 | <10 | >90 | 30 | 20 |
| **12-May-03** | 30 | <10 | <10 | 30 | 10 | <10 | 20 | 10 | <10 |
| **19-May-03** | 70 | 10 | 10 | 40 | 30 | <10 | 100 | 20 | <10 |
| **27-May-03** | 20 | <10 | <10 | 100 | 80 | 30 | 30 | 20 | 10 |
| **2-Jun-03** | 10 | 20 | 10 | 40 | 10 | 50 | 70 | 30 | 10 |
| **9-Jun-03** | 160 | 30 | 10 | 50 | <10 | 10 | 70 | 40 | <10 |
| **16-Jun-03** | 40 | 10 | <10 | 10 | <10 | <10 | 130 | 160 | <10 |
| **23-Jun-03** | 20 | <10 | <10 | 50 | <10 | <10 | 50 | 60 | 40 |
| **30-Jun-03** | 60 | 30 | 10 | 80 | 60 | <10 | 30 | 10 | <10 |
| **7-Jul-03** | 30 | 20 | <10 | 20 | <10 | <10 | >50 | 20 | 20 |
| **14-Jul-03** | 40 | 20 | <10 | 10 | 20 | <10 | 60 | 20 | <10 |
| **21-Jul-03** | 30 | <10 | <10 | 10 | <10 | <10 | 30 | <10 | <10 |
| **28-Jul-03** | 10 | <10 | 30 | 30 | 10 | <10 | 50 | 40 | <10 |
| **4-Aug-03** | 40 | 20 | 10 | 30 | 10 | <10 | 50 | <10 | <10 |
| **11-Aug-03** | 10 | 10 | 60 | 80 | <10 | <10 | >220 | 70 | 50 |
| **21-Aug-03** | 30 | 30 | <2 | 30 | <10 | 2 | 30 | <10 | <2 |
| **25-Aug-03** | 30 | <10 | <10 | 170 | 100 | <10 | 40 | <10 | <10 |
| **2-Sep-03** | <10 | 30 | 10 | 30 | <10 | <10 | 10 | <10 | <10 |
| **8-Sep-03** | 30 | <10 | <10 | <10 | 20 | <10 | 10 | 20 | 10 |
| **15-Sep-03** | 220 | 60 | <10 | >140 | 60 | 10 | >500 | 460 | 80 |
| **22-Sep-03** | 20 | <10 | <10 | 20 | 10 | 10 | 80 | 10 | <10 |
| **29-Sep-03** | 10 | <10 | <10 | 20 | <10 | 10 | 50 | 20 | 20 |
| **6-Oct-03** | 10 | 10 | <10 | 20 | <10 | <10 | 120 | 130 | 40 |
| **14-Oct-03** | <10 | 10 | <10 | 10 | 20 | <10 | 10 | 30 | <10 |
| **20-Oct-03** | 40 | <10 | 10 | 80 | <10 | 10 | 80 | 40 | <10 |
| **27-Oct-03** | Cw/C | Cw/C | 4400 | Cw/C | Cw/C | 4000 | Cw/C | Cw/C | 3800 |
| **3-Nov-03** | 100 | 70 | 9 | 20 | 60 | 22 | 100 | 50 | 10 |
| **12-Nov-03** | 2200 | 40 | 22 | 3400 | 60 | 20 | 2600 | 60 | 10 |
| **17-Nov-03** | 50 | 20 | 10 | 60 | 20 | 10 | 100 | 30 | 27 |
| **24-Nov-03** | 50 | 20 | 10 | 30 | <10 | 2 | 100 | 40 | 2 |
| **1-Dec-03** | 22200 | 430 | 130 | 28400 | 260 | 110 | 23000 | 430 | 120 |
| **9-Dec-03** | 11000 | 160 | 150 | 9400 | 120 | 120 | 10000 | 70 | 84 |
| **15-Dec-03** | 260 | 130 | 42 | 20 | 30 | 6 | 30 | 30 | 20 |
| **22-Dec-03** | >1100 | 40 | 38 | >1220 | 30 | 40 | >1170 | 100 | 36 |
| **29-Dec-03** | >19000 | 190 | 230 | >14000 | 270 | 62 | >18000 | 180 | 56 |
| **5-Jan-04** | 30 | 30 | 22 | 50 | 10 | 10 | 60 | 10 | 2 |
| 12-Jan-04 | 150 | 70 | 38 | 300 | 110 | 20 | 100 | 100 | 24 |
| 20-Jan-04 | 30 | <10 | 20 | 20 | 10 | 2 | 450 | 320 | 10 |
| 26-Jan-04 | 170 | 100 | 6 | 60 | 40 | 20 | 100 | 60 | 20 |
| 2-Feb-04 | 110 | 80 | <2 | 100 | <10 | 2 | 60 | 10 | 8 |
| 9-Feb-04 | 10 | 40 | 10 | 60 | 40 | 8 | 220 | 140 | 400 |
| 17-Feb-04 | TNTC | 2600 | 17000 | TNTC | 4000 | 18000 | TNTC | 2800 | 6200 |
| 23-Feb-04 | 400 | 230 | 160 | 100 | 60 | 10 | 600 | 1900 | 224 |
| 1-Mar-04 | 30 | 20 | 4 | 20 | <10 | 8 | 20 | <10 | 10 |
| 8-Mar-04 | 120 | 50 | 10 | 130 | 80 | 26 | 260 | 210 | 273 |
| 15-Mar-04 | 120 | 50 | 10 | 130 | 80 | 26 | 260 | 210 | 273 |
| 22-Mar-04 | 30 | 20 | 4 | 20 | <10 | 28 | 30 | 30 | 6 |
| 31-Mar-04 | 210 | 120 | 86 | 80 | 30 | 10 | >140 | 120 | 8 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms
**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### UPPER BAY STATIONS

(Concentrations in CFU/100 mL)

| | Newport Dunes - North | | | Vaughn's Launch | | | Ski Zone | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| 7-Apr-03 | >2000 | 1510 | 410 | >3800 | 110 | 1460 | 400 | 10 | 140 |
| 14-Apr-03 | >770 | 10 | 10 | NS | NS | NS | NS | NS | NS |
| 21-Apr-03 | 50 | 30 | <10 | Cw/C | 510 | 971 | NS | NS | NS |
| 30-Apr-03 | Cw/C | >24400 | 180 | NS | NS | NS | NS | NS | NS |
| 5-May-03 | 150 | 30 | <10 | >80 | <10 | 20 | >60 | <10 | 50 |
| 12-May-03 | >80 | 20 | 10 | NS | NS | NS | NS | NS | NS |
| 19-May-03 | 330 | 180 | 20 | NS | NS | NS | NS | NS | NS |
| 27-May-03 | 40 | 20 | <10 | NS | NS | NS | NS | NS | NS |
| 2-Jun-03 | 20 | <10 | 10 | NS | NS | NS | NS | NS | NS |
| 9-Jun-03 | >150 | 60 | 40 | NS | NS | NS | NS | NS | NS |
| 16-Jun-03 | 70 | 20 | 10 | NS | NS | NS | NS | NS | NS |
| 23-Jun-03 | 10 | <10 | 10 | NS | NS | NS | NS | NS | NS |
| 30-Jun-03 | 40 | 10 | <10 | NS | NS | NS | NS | NS | NS |
| 7-Jul-03 | >340 | 300 | 50 | <10 | <10 | <10 | NS | NS | NS |
| 14-Jul-03 | 70 | 10 | <10 | NS | NS | NS | NS | NS | NS |
| 21-Jul-03 | 1000 | 730 | 560 | >40 | 20 | <10 | NS | NS | NS |
| 28-Jul-03 | 20 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| 4-Aug-03 | 30 | 80 | <10 | <10 | <10 | 20 | 10 | <10 | <10 |
| 11-Aug-03 | >400 | 1050 | 260 | NS | NS | NS | NS | NS | NS |
| 21-Aug-03 | 1000 | 1000 | 40 | >10 | <10 | 8 | <10 | <10 | 4 |
| 25-Aug-03 | 650 | 930 | 510 | NS | NS | NS | NS | NS | NS |
| 2-Sep-03 | >100 | 50 | <10 | >20 | 20 | 150 | <10 | <10 | 40 |
| 8-Sep-03 | 1350 | 1470 | 200 | NS | NS | NS | NS | NS | NS |
| 15-Sep-03 | 80 | 80 | 10 | NS | NS | NS | NS | NS | NS |
| 22-Sep-03 | 1000 | 1460 | 30 | >70 | 50 | 20 | >10 | <10 | <10 |
| 29-Sep-03 | 140 | 80 | 10 | 30 | 30 | 10 | <10 | <10 | <10 |
| 6-Oct-03 | 40 | 50 | <10 | >20 | 10 | <10 | >10 | 10 | 10 |
| 14-Oct-03 | 20 | 10 | <10 | NS | NS | NS | NS | NS | NS |
| 20-Oct-03 | 150 | 80 | 50 | 80 | 60 | 20 | >80 | 10 | 70 |
| 27-Oct-03 | Cw/C | Cw/C | 2400 | Cw/C | 6800 | 348 | Cw/C | Cw/C | 2800 |
| 3-Nov-03 | 360 | 200 | 38 | 20 | 10 | 46 | >10 | <10 | 10 |
| 12-Nov-03 | 6600 | 800 | 400 | 3400 | 100 | 30 | NS | NS | NS |
| 17-Nov-03 | 230 | 60 | 29 | 80 | 20 | 92 | 1000 | 30 | 28 |
| 24-Nov-03 | 100 | 60 | 20 | >20 | <10 | 24 | NS | NS | NS |
| 1-Dec-03 | 22000 | 640 | 170 | 7200 | 100 | 78 | 16000 | 280 | 88 |
| 9-Dec-03 | 700 | 80 | 36 | NS | NS | NS | NS | NS | NS |
| 15-Dec-03 | 130 | <10 | 10 | NS | NS | NS | NS | NS | NS |
| 22-Dec-03 | >981 | 40 | 34 | NS | NS | NS | NS | NS | NS |
| 29-Dec-03 | >18000 | 160 | 70 | 2200 | 20 | 30 | 18000 | 100 | 62 |
| 5-Jan-04 | 70 | 50 | 20 | 70 | 60 | 20 | 130 | 40 | 10 |
| 12-Jan-04 | 60 | 30 | 20 | 180 | 40 | 50 | 490 | 10 | 10 |
| 20-Jan-04 | 70 | 100 | 28 | 30 | 10 | 10 | 200 | 30 | 2 |
| 26-Jan-04 | 130 | 80 | 44 | 50 | 80 | 96 | >880 | 250 | 62 |
| 2-Feb-04 | 120 | 60 | 10 | 770 | 20 | 22 | 110 | <10 | 8 |
| 9-Feb-04 | 320 | 100 | 140 | 150 | 70 | 78 | 230 | <10 | 10 |
| 17-Feb-04 | TNTC | 4200 | 3600 | NS | NS | NS | NS | NS | NS |
| 23-Feb-04 | Cw/C | 3400 | 2000 | NS | NS | NS | NS | NS | NS |
| 1-Mar-04 | 180 | 100 | 40 | 420 | 380 | 400 | 200 | 10 | 8 |
| 8-Mar-04 | 220 | 130 | 74 | >230 | 140 | 259 | NS | NS | NS |
| 15-Mar-04 | 220 | 130 | 74 | >230 | 140 | 259 | NS | NS | NS |
| 22-Mar-04 | 230 | 270 | 28 | NS | NS | NS | NS | NS | NS |
| 31-Mar-04 | >40 | 40 | 10 | >250 | 10 | 60 | NS | NS | NS |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms
**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### UPPER BAY STATIONS

(Concentrations in CFU/100 mL)

| | North Star Beach | | | De Anza Launch | | | Bayshore Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| **7-Apr-03** | >160 | <10 | 110 | 2800 | 630 | 280 | >40 | 20 | 50 |
| **14-Apr-03** | >760 | 30 | 80 | >720 | <10 | 50 | >640 | 10 | 70 |
| **21-Apr-03** | 80 | 10 | 10 | <10 | <10 | 20 | 10 | <10 | 10 |
| **30-Apr-03** | Cw/C | 18000 | 80 | Cw/C | 4600 | 40 | Cw/C | 6800 | 40 |
| **5-May-03** | 70 | <10 | 10 | 50 | <10 | <10 | 20 | 10 | 120 |
| **12-May-03** | >70 | 10 | 20 | 40 | <10 | 10 | 30 | <10 | <10 |
| **19-May-03** | 90 | <10 | 10 | <10 | <10 | <10 | 30 | 10 | <10 |
| **27-May-03** | 30 | <10 | 10 | 40 | <10 | <10 | 10 | 10 | <10 |
| **2-Jun-03** | 40 | 10 | <10 | 40 | 10 | <10 | 160 | <10 | 10 |
| **9-Jun-03** | 60 | 10 | <10 | 40 | 30 | 10 | 70 | 10 | <10 |
| **16-Jun-03** | <10 | <10 | <10 | 330 | 10 | 30 | 40 | 30 | 20 |
| **23-Jun-03** | >20 | <10 | 10 | 60 | 10 | 10 | 80 | <10 | <10 |
| **30-Jun-03** | <10 | <10 | <10 | 110 | 10 | 10 | 150 | <10 | <10 |
| **7-Jul-03** | 80 | 20 | 10 | 50 | 10 | <10 | 40 | 10 | <10 |
| **14-Jul-03** | >10 | <10 | <10 | <10 | 10 | <10 | 50 | 30 | <10 |
| **21-Jul-03** | 350 | <10 | <10 | 40 | 80 | <10 | 20 | <10 | 10 |
| **28-Jul-03** | 20 | <10 | 10 | 410 | <10 | <10 | 620 | 170 | 110 |
| **4-Aug-03** | 40 | 20 | 20 | 10 | 20 | <10 | 10 | 40 | 10 |
| **11-Aug-03** | 10 | 10 | <10 | 20 | 10 | <10 | <10 | <10 | <10 |
| **21-Aug-03** | 30 | 20 | 4 | 20 | 20 | 8 | 50 | <10 | 8 |
| **25-Aug-03** | 10 | <10 | <10 | 20 | 10 | <10 | 160 | <10 | 10 |
| **2-Sep-03** | 30 | 10 | 10 | 10 | <10 | <10 | 10 | 10 | <10 |
| **8-Sep-03** | 30 | <10 | <10 | 40 | <10 | <10 | 160 | 100 | 30 |
| **15-Sep-03** | Cw/C | 1000 | 1670 | 10 | 10 | 10 | 80 | 10 | <10 |
| **22-Sep-03** | 70 | 10 | 10 | 70 | 30 | <10 | 30 | <10 | <10 |
| **29-Sep-03** | <10 | <10 | <10 | <10 | 20 | <10 | 20 | <10 | <10 |
| **6-Oct-03** | 10 | 10 | 10 | 10 | 20 | 10 | 50 | <10 | 10 |
| **14-Oct-03** | 20 | 10 | <10 | 30 | 10 | <10 | <10 | <10 | <10 |
| **20-Oct-03** | 100 | 10 | <10 | 60 | 40 | 10 | 50 | 10 | 20 |
| **27-Oct-03** | Cw/C | 3000 | 366 | TNTC | 2000 | 249 | TNTC | 1130 | 160 |
| **3-Nov-03** | 80 | <10 | 6 | 20 | <10 | 10 | 10 | 20 | <2 |
| **12-Nov-03** | 2000 | 30 | 20 | 570 | 20 | 6 | 260 | <10 | 4 |
| **17-Nov-03** | 30 | 30 | 10 | <10 | <10 | 2 | <10 | 10 | 6 |
| **24-Nov-03** | <10 | <10 | 2 | 30 | <10 | <2 | 60 | 100 | 10 |
| **1-Dec-03** | 6600 | 80 | 36 | 790 | 20 | 10 | 770 | <10 | <2 |
| **9-Dec-03** | Cw/C | 1140 | 1000 | 110 | <10 | 4 | 120 | <10 | 10 |
| **15-Dec-03** | 20 | <10 | 20 | 900 | 780 | 130 | 10 | <10 | 64 |
| **22-Dec-03** | 8000 | 180 | 190 | 2200 | 50 | 24 | 600 | <10 | 10 |
| **29-Dec-03** | 5800 | 20 | 20 | 2600 | 20 | 10 | 2600 | 20 | 10 |
| **5-Jan-04** | 230 | 110 | 70 | <10 | <10 | 2 | 60 | <10 | 10 |
| 12-Jan-04 | 20 | 10 | 10 | 10 | <10 | <2 | 100 | <10 | <23 |
| 20-Jan-04 | 100 | 60 | 22 | 30 | 10 | 4 | 10 | <10 | 2 |
| 26-Jan-04 | 30 | 10 | <2 | <10 | <10 | 4 | 20 | <10 | 2 |
| 2-Feb-04 | >920 | 10 | 58 | 40 | <10 | <2 | 40 | <10 | <2 |
| 9-Feb-04 | 30 | 10 | <2 | 30 | 10 | 22 | 50 | 30 | 4 |
| 17-Feb-04 | TNTC | 1000 | 22000 | TNTC | 2400 | 17000 | TNTC | 1000 | 8600 |
| 23-Feb-04 | 1000 | 570 | 200 | >290 | 220 | 130 | >370 | 230 | 120 |
| 1-Mar-04 | 180 | <10 | 70 | 80 | 10 | 54 | 50 | 30 | 34 |
| 8-Mar-04 | 100 | 60 | 54 | 60 | 20 | 20 | 50 | <10 | 20 |
| 15-Mar-04 | 100 | 60 | 54 | 60 | 20 | 20 | 50 | <10 | 20 |
| 22-Mar-04 | 70 | 10 | 10 | 590 | 470 | 120 | 40 | 30 | 50 |
| 31-Mar-04 | 30 | <10 | 8 | <10 | <10 | 2 | 20 | 30 | 4 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms
**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### TRIBUTARY STATIONS

(Concentrations in CFU/100 mL)

| | San Diego Creek - Campus Dr. | | | Santa Ana Delhi Channel | | | Big Canyon Wash | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | FC | ENT | TC | FC | ENT | TC | FC | ENT |
| **7-Apr-03** | >570 | 20 | 30 | Cw/C | 20 | 30 | >1000 | 60 | 100 |
| **14-Apr-03** | >600 | >230 | 50 | >4000 | 230 | 250 | >960 | 220 | 210 |
| **21-Apr-03** | >3600 | >270 | 480 | TNTC | >800 | 560 | NS | NS | NS |
| **30-Apr-03** | >1000 | 120 | 60 | >5400 | 460 | 230 | >600 | 60 | 140 |
| **5-May-03** | Cw/C | >3800 | 290 | >21800 | 3800 | 520 | >200 | 310 | 100 |
| **12-May-03** | >8600 | 200 | 80 | >22200 | 530 | 150 | >200 | 140 | 220 |
| **19-May-03** | >1000 | >70 | 40 | >2600 | 1170 | 830 | >400 | 30 | 10 |
| **27-May-03** | >1000 | 270 | 30 | Cw/C | 2600 | 1100 | >800 | 490 | 50 |
| **2-Jun-03** | >2000 | 250 | 30 | >2000 | 220 | 110 | >130 | 80 | 30 |
| **9-Jun-03** | >100 | 390 | 60 | >15000 | 4400 | 270 | 100 | 130 | 50 |
| **16-Jun-03** | >600 | >60 | 80 | >400 | 710 | 500 | NS | NS | NS |
| **23-Jun-03** | >4000 | 2800 | 630 | Cw/C | 4600 | 2800 | >200 | 80 | 40 |
| **30-Jun-03** | >1000 | 2600 | 100 | Cw/C | 4200 | 1160 | NS | NS | NS |
| **7-Jul-03** | Cw/C | >180 | 260 | Cw/C | 2400 | 3000 | >200 | 10 | 200 |
| **14-Jul-03** | Cw/C | 200 | 50 | >800 | 2200 | 2000 | Cw/C | 250 | 80 |
| **21-Jul-03** | >800 | 100 | 30 | >3000 | 600 | 3200 | <10 | 20 | 130 |
| **28-Jul-03** | Cw/C | 80 | 50 | >400 | 700 | 820 | Cw/C | 80 | 880 |
| **4-Aug-03** | >5000 | >760 | 40 | Cw/C | 7800 | 1140 | NS | NS | NS |
| **11-Aug-03** | >1000 | 800 | 10 | >2200 | 2600 | 8800 | >800 | 160 | 350 |
| **21-Aug-03** | Cw/C | >70 | 100 | Cw/C | >5200 | 9200 | NS | NS | NS |
| **25-Aug-03** | >800 | <10 | 24 | >1000 | 130 | 600 | 2400 | 160 | 222 |
| **2-Sep-03** | >200 | >60 | 20 | >20 | >160 | 1300 | NS | NS | NS |
| **8-Sep-03** | Cw/C | 80 | 40 | >400 | 2000 | 1500 | >1000 | 930 | 640 |
| **15-Sep-03** | >1000 | 100 | 20 | >2000 | >580 | 5600 | NS | NS | NS |
| **22-Sep-03** | Cw/oC | 70 | 30 | 80 | 10 | <10 | 1000 | 190 | 230 |
| **29-Sep-03** | >50 | >200 | 20 | >2200 | 1000 | 370 | >220 | 140 | 50 |
| **6-Oct-03** | >400 | 60 | 230 | >2600 | 240 | 470 | >270 | 110 | 50 |
| **14-Oct-03** | >2000 | 310 | 180 | >2600 | >460 | 740 | >310 | 450 | 80 |
| **20-Oct-03** | >400 | 190 | 210 | >3600 | 410 | 570 | >40 | 200 | 70 |
| **27-Oct-03** | >200 | 230 | 110 | >1000 | 270 | 230 | >1000 | 230 | 290 |
| **3-Nov-03** | Cw/C | >14000 | 2200 | Cw/C | Cw/C | 3200 | Cw/C | 1000 | 600 |
| **12-Nov-03** | >11000 | 110 | 68 | TNTC | 380 | 200 | >3200 | 120 | 170 |
| **17-Nov-03** | Cw/C | 3800 | 800 | >25200 | 1000 | 1000 | >620 | 280 | 74 |
| **24-Nov-03** | >2200 | 120 | 34 | >24600 | >250 | 335 | >3400 | 710 | 1000 |
| **1-Dec-03** | 2000 | 100 | 56 | >2800 | 120 | 289 | 5600 | 1620 | 2200 |
| **9-Dec-03** | Cw/C | 3600 | 2000 | Cw/C | 2200 | 3400 | 9200 | 1770 | 800 |
| **15-Dec-03** | Cw/C | 13000 | 21000 | Cw/C | TNTC | TNTC | NS | NS | NS |
| **22-Dec-03** | 10000 | 390 | 92 | Cw/C | 7200 | 277 | >420 | 240 | 56 |
| **29-Dec-03** | Cw/C | 800 | 4400 | Cw/C | 660 | 600 | NS | NS | NS |
| **5-Jan-04** | >16000 | 380 | 800 | >18000 | 160 | 297 | >580 | 400 | 244 |
| 12-Jan-04 | 8200 | 550 | 600 | Cw/C | 15000 | 313 | 290 | 320 | 86 |
| 20-Jan-04 | 34800 | 490 | 317 | 16000 | 190 | 130 | 5600 | 510 | 140 |
| 26-Jan-04 | 3000 | 190 | 48 | 4800 | 60 | 150 | >590 | 380 | 218 |
| 2-Feb-04 | 10000 | 500 | 120 | 5600 | 100 | 78 | >4300 | 160 | 160 |
| 9-Feb-04 | 4200 | 110 | 331 | 6400 | 100 | 222 | >720 | 270 | 82 |
| 17-Feb-04 | 5200 | 170 | 800 | 15000 | 180 | 287 | >1080 | 480 | 2200 |
| 23-Feb-04 | TNTC | Cw/C | TNTC | TNTC | 4200 | TNTC | NS | NS | NS |
| 1-Mar-04 | >1000 | 1000 | 2200 | 3200 | 160 | 273 | >30 | 1800 | 160 |
| 8-Mar-04 | 4600 | 240 | 1000 | 2000 | 260 | 253 | >110 | 180 | 206 |
| 15-Mar-04 | >120 | 200 | 180 | 1000 | 140 | 150 | >150 | 440 | 130 |
| 22-Mar-04 | 200 | 50 | 110 | 1000 | 270 | 251 | NS | NS | NS |
| 31-Mar-04 | 3400 | 260 | 30 | >2000 | 220 | 140 | >800 | 70 | 54 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms

**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 1

## BACTERIOLOGICAL SAMPLING RESULTS FOR NEWPORT BAY

### TRIBUTARY STATIONS

(Concentrations in CFU/100 mL)

| | Back Bay Dr. Drain | | |
|---|---|---|---|
| | TC | FC | ENT |
| 7-Apr-03 | 100 | 210 | 270 |
| 14-Apr-03 | Cw/C | TNTC | 14000 |
| 21-Apr-03 | >550 | 30 | 120 |
| 30-Apr-03 | >410 | 50 | 40 |
| 5-May-03 | >430 | 20 | 150 |
| 12-May-03 | >470 | 20 | 40 |
| 19-May-03 | >11000 | 270 | 1220 |
| 27-May-03 | 2000 | 240 | 200 |
| 2-Jun-03 | NS | NS | NS |
| 9-Jun-03 | NS | NS | NS |
| 16-Jun-03 | NS | NS | NS |
| 23-Jun-03 | NS | NS | NS |
| 30-Jun-03 | NS | NS | NS |
| 7-Jul-03 | NS | NS | NS |
| 14-Jul-03 | NS | NS | NS |
| 21-Jul-03 | NS | NS | NS |
| 28-Jul-03 | NS | NS | NS |
| 4-Aug-03 | NS | NS | NS |
| 11-Aug-03 | NS | NS | NS |
| 21-Aug-03 | NS | NS | NS |
| 25-Aug-03 | NS | NS | NS |
| 2-Sep-03 | NS | NS | NS |
| 8-Sep-03 | NS | NS | NS |
| 15-Sep-03 | NS | NS | NS |
| 22-Sep-03 | NS | NS | NS |
| 29-Sep-03 | >9000 | 1000 | 510 |
| 6-Oct-03 | >10000 | 310 | 730 |
| 14-Oct-03 | >2200 | 470 | 350 |
| 20-Oct-03 | NS | NS | NS |
| 27-Oct-03 | NS | NS | NS |
| 3-Nov-03 | NS | NS | NS |
| 12-Nov-03 | 4200 | 10 | 140 |
| 17-Nov-03 | >580 | 80 | 140 |
| 24-Nov-03 | >4200 | 70 | 325 |
| 1-Dec-03 | >880 | 10 | 362 |
| 9-Dec-03 | 3600 | 40 | 200 |
| 15-Dec-03 | 3200 | 50 | 344 |
| 22-Dec-03 | 4000 | 110 | 232 |
| 29-Dec-03 | >970 | 40 | 238 |
| 5-Jan-04 | >750 | 140 | 150 |
| 12-Jan-04 | 3800 | 80 | 80 |
| 20-Jan-04 | 4400 | 50 | 251 |
| 26-Jan-04 | >4400 | 20 | >140 |
| 2-Feb-04 | >3100 | <10 | 58 |
| 9-Feb-04 | 4200 | 20 | 58 |
| 17-Feb-04 | >2000 | 110 | 234 |
| 23-Feb-04 | >1310 | 2000 | 800 |
| 1-Mar-04 | >30 | 10 | 50 |
| 8-Mar-04 | >30 | <10 | 20 |
| 15-Mar-04 | >140 | 80 | 90 |
| 22-Mar-04 | 600 | 40 | 130 |
| 31-Mar-04 | >1000 | 50 | 130 |

Sampling results possibly influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

**TC** = Total Coliforms **ENT** = Enterococci **Cw/C** = Confluent Growth with Coliforms
**FC** = Fecal Coliforms **NS** = Not Sampled **TNTC** = Too Numerous To Count

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**LOWER BAY STATIONS**

| | 43rd Street Beach | | | 38th Street Beach | | | 33rd Street Channel | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | <10 | 138 | no | 30 | 164 | no | 2600 | 158 | no |
| 14-Apr-03 | >1260 | 123 | no | 2000 | 117 | no | 2600 | 303 | no |
| 21-Apr-03 | 20 | 43 | no | 80 | 54 | no | <10 | 92 | no |
| 30-Apr-03 | 350 | 71 | no | 70 | 80 | no | <10 | 92 | no |
| 5-May-03 | 430 | 131 | no | 160 | 140 | no | <10 | 92 | no |
| 12-May-03 | 210 | 240 | no | <10 | 112 | no | 20 | 35 | no |
| 19-May-03 | 50 | 126 | no | 20 | 45 | yes | 1460 | 31 | no |
| 27-May-03 | 30 | 137 | no | 30 | 37 | yes | 10 | 31 | no |
| 2-Jun-03 | 140 | 114 | no | 10 | 25 | yes | <10 | 31 | no |
| 9-Jun-03 | 2000 | 155 | no | <10 | 14 | yes | 380 | 64 | no |
| 16-Jun-03 | 1420 | 227 | no | 80 | 22 | yes | 30 | 70 | no |
| 23-Jun-03 | 230 | 307 | no | 30 | 24 | yes | 10 | 26 | yes |
| 30-Jun-03 | 2400 | 738 | no | <10 | 19 | yes | 10 | 26 | yes |
| 7-Jul-03 | 2200 | 1281 | no | 23400 | 89 | no | TNTC | 135 | no |
| 14-Jul-03 | >3800 | 1456 | no | >40 | 118 | no | 30 | 82 | no |
| 21-Jul-03 | 30 | 673 | no | 220 | 144 | no | 70 | 97 | no |
| 28-Jul-03 | 110 | 581 | no | 20 | 133 | no | Cw/C | 507 | no |
| 4-Aug-03 | 430 | 412 | no | 10 | 133 | no | <10 | 507 | no |
| 11-Aug-03 | >880 | 343 | no | 380 | 58 | yes | 140 | 164 | no |
| 21-Aug-03 | 10 | | no | 550 | | no | >60 | | no |
| 25-Aug-03 | 80 | 127 | no | 100 | 84 | no | >800 | 306 | no |
| 2-Sep-03 | 80 | 119 | no | 120 | 120 | no | 10 | 58 | no |
| 8-Sep-03 | 100 | 89 | no | 20 | 138 | no | 20 | 67 | no |
| 15-Sep-03 | 10 | 36 | yes | 60 | 95 | no | 30 | 49 | no |
| 22-Sep-03 | 100 | 58 | yes | 50 | 59 | yes | 80 | 52 | no |
| 29-Sep-03 | 70 | 56 | yes | <10 | 37 | yes | 10 | 22 | yes |
| 6-Oct-03 | <10 | 37 | yes | 20 | 26 | yes | 40 | 29 | yes |
| 14-Oct-03 | 420 | 49 | no | 40 | 30 | yes | 50 | 34 | yes |
| 20-Oct-03 | 20 | 57 | no | <10 | 21 | yes | <10 | 28 | yes |
| 27-Oct-03 | 70 | 53 | no | 30 | 19 | yes | 50 | 25 | yes |
| 3-Nov-03 | 100 | 57 | no | 40 | 25 | yes | 290 | 49 | yes |
| 12-Nov-03 | <10 | 57 | no | 10 | 22 | yes | <10 | 37 | yes |
| 17-Nov-03 | 160 | 47 | yes | 30 | 20 | yes | >190 | 49 | yes |
| 24-Nov-03 | 30 | 51 | yes | 100 | 32 | yes | 20 | 56 | yes |
| 1-Dec-03 | 70 | 51 | yes | 10 | 26 | yes | <10 | 41 | yes |
| 9-Dec-03 | 30 | 40 | yes | 60 | 28 | yes | 190 | 37 | yes |
| 15-Dec-03 | 1020 | 101 | no | 1000 | 71 | no | 540 | 83 | no |
| 22-Dec-03 | 40 | 76 | no | 40 | 75 | no | 10 | 46 | no |
| 29-Dec-03 | 2400 | 183 | no | 120 | 78 | no | 50 | 55 | no |
| 5-Jan-04 | <10 | 124 | no | 70 | 115 | no | <10 | 55 | no |
| 12-Jan-04 | 240 | 188 | no | 980 | 201 | no | 50 | 42 | no |
| 20-Jan-04 | 30 | 93 | no | <10 | 80 | no | 20 | 22 | yes |
| 26-Jan-04 | 10 | 70 | no | 120 | 100 | no | 260 | 42 | yes |
| 2-Feb-04 | 10 | 24 | yes | <10 | 61 | no | <10 | 30 | yes |
| 9-Feb-04 | <10 | 24 | yes | <10 | 41 | no | <10 | 30 | yes |
| 17-Feb-04 | <10 | 12 | yes | 20800 | 76 | no | 10 | 22 | yes |
| 23-Feb-04 | 290 | 20 | yes | 340 | 153 | no | 6600 | 70 | no |
| 1-Mar-04 | 120 | 32 | yes | 30 | 116 | no | 30 | 46 | no |
| 8-Mar-04 | 20 | 37 | yes | 30 | 145 | no | <10 | 46 | no |
| 15-Mar-04 | <10 | 37 | yes | <10 | 145 | no | 50 | 63 | no |
| 22-Mar-04 | 710 | 87 | no | 30 | 39 | yes | 10 | 63 | no |
| 31-Mar-04 | 910 | 109 | no | <10 | 19 | yes | 100 | 27 | yes |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**LOWER BAY STATIONS**

| | Lido Yacht Club Beach | | | Via Genoa Beach | | | Newport Blvd. Bridge | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | <10 | 43 | no | 10 | 41 | no | 30 | 256 | no |
| 14-Apr-03 | 20 | 43 | no | 180 | 74 | no | 3000 | 235 | no |
| 21-Apr-03 | 2600 | 35 | no | 50 | 31 | yes | >15000 | 352 | no |
| 30-Apr-03 | <10 | 35 | no | <10 | 25 | yes | 2400 | 917 | no |
| 5-May-03 | 970 | 87 | no | 270 | 48 | yes | 890 | 1236 | no |
| 12-May-03 | <10 | 87 | no | <10 | 48 | yes | 580 | 2235 | no |
| 19-May-03 | <10 | 76 | no | 20 | 31 | yes | >100 | 1132 | no |
| 27-May-03 | <10 | 25 | no | <10 | 22 | yes | 780 | 627 | no |
| 2-Jun-03 | <10 | 25 | no | 10 | 22 | yes | 180 | 373 | no |
| 9-Jun-03 | 40 | 13 | yes | 30 | 14 | yes | 1000 | 382 | no |
| 16-Jun-03 | <10 | 13 | yes | 10 | 14 | yes | 8400 | 652 | no |
| 23-Jun-03 | <10 | 13 | yes | 10 | 12 | yes | <10 | 411 | no |
| 30-Jun-03 | 20 | 15 | yes | 10 | 12 | yes | >340 | 349 | no |
| 7-Jul-03 | 30 | 19 | yes | 30 | 16 | yes | >330 | 393 | no |
| 14-Jul-03 | <10 | 14 | yes | 20 | 14 | yes | 3600 | 508 | no |
| 21-Jul-03 | <10 | 14 | yes | 180 | 26 | yes | 150 | 227 | no |
| 28-Jul-03 | <10 | 14 | yes | 50 | 35 | yes | 80 | 344 | no |
| 4-Aug-03 | <10 | 12 | yes | 10 | 35 | yes | 70 | 251 | no |
| 11-Aug-03 | 20 | 11 | yes | 30 | 35 | yes | 100 | 198 | no |
| 21-Aug-03 | 10 | | ID | <10 | | ID | 10 | | ID |
| 25-Aug-03 | <10 | 11 | yes | 10 | 17 | yes | 50 | 49 | yes |
| 2-Sep-03 | <10 | 11 | yes | <10 | 12 | yes | >100 | 51 | yes |
| 8-Sep-03 | 20 | 13 | yes | 80 | 19 | yes | 140 | 59 | yes |
| 15-Sep-03 | 10 | 11 | yes | <10 | 15 | yes | 100 | 59 | yes |
| 22-Sep-03 | <10 | 11 | yes | 70 | 22 | yes | 50 | 81 | yes |
| 29-Sep-03 | 10 | 11 | yes | 70 | 33 | yes | 20 | 67 | yes |
| 6-Oct-03 | 50 | 16 | yes | 10 | 33 | yes | 2200 | 125 | no |
| 14-Oct-03 | <10 | 14 | yes | 10 | 22 | yes | 110 | 119 | no |
| 20-Oct-03 | <10 | 14 | yes | <10 | 22 | yes | 20 | 86 | no |
| 27-Oct-03 | <10 | 14 | yes | <10 | 15 | yes | 100 | 99 | no |
| 3-Nov-03 | >400 | 29 | no | >470 | 22 | no | 330 | 174 | no |
| 12-Nov-03 | <10 | 21 | no | <10 | 22 | no | 70 | 87 | yes |
| 17-Nov-03 | 10 | 21 | no | <10 | 22 | no | 40 | 71 | yes |
| 24-Nov-03 | 310 | 42 | no | 80 | 33 | no | 50 | 86 | yes |
| 1-Dec-03 | 20 | 48 | no | <10 | 33 | no | 20 | 62 | yes |
| 9-Dec-03 | 30 | 28 | yes | 60 | 22 | yes | 250 | 59 | yes |
| 15-Dec-03 | <10 | 28 | yes | <10 | 22 | yes | 20 | 46 | yes |
| 22-Dec-03 | 10 | 28 | yes | 100 | 34 | yes | 290 | 68 | yes |
| 29-Dec-03 | 20 | 16 | yes | 30 | 28 | yes | 40 | 65 | yes |
| 5-Jan-04 | 10 | 14 | yes | 730 | 67 | no | <10 | 57 | yes |
| 12-Jan-04 | <10 | 11 | yes | <10 | 47 | no | 220 | 55 | yes |
| 20-Jan-04 | 20 | 13 | yes | 20 | 53 | no | 250 | 91 | yes |
| 26-Jan-04 | <10 | 13 | yes | 10 | 34 | no | <10 | 47 | yes |
| 2-Feb-04 | <10 | 11 | yes | 10 | 27 | no | 750 | 84 | no |
| 9-Feb-04 | <10 | 11 | yes | 20 | 13 | yes | 140 | 142 | no |
| 17-Feb-04 | 50 | 16 | yes | 30 | 16 | yes | 190 | 138 | no |
| 23-Feb-04 | 400 | 29 | yes | 2000 | 41 | no | 800 | 174 | no |
| 1-Mar-04 | 20 | 33 | yes | 20 | 47 | no | 170 | 307 | no |
| 8-Mar-04 | 20 | 38 | yes | 10 | 47 | no | 80 | 196 | no |
| 15-Mar-04 | 10 | 38 | yes | <10 | 41 | no | 990 | 290 | no |
| 22-Mar-04 | <10 | 28 | yes | 30 | 41 | no | 10 | 161 | no |
| 31-Mar-04 | <10 | 13 | yes | <10 | 14 | yes | 40 | 88 | no |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**LOWER BAY STATIONS**

| | Rhine Channel | | | 19th Street Beach | | | 15th Street Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | <10 | 50 | no | <10 | 64 | no | <10 | 40 | no |
| 14-Apr-03 | 500 | 67 | no | 20 | 46 | no | 30 | 50 | no |
| 21-Apr-03 | <10 | 22 | no | 10 | 13 | yes | <10 | 16 | yes |
| 30-Apr-03 | 30 | 27 | no | <10 | 13 | yes | 40 | 16 | yes |
| 5-May-03 | 600 | 62 | no | 950 | 29 | no | 830 | 40 | no |
| 12-May-03 | <10 | 62 | no | <10 | 29 | no | 10 | 40 | no |
| 19-May-03 | 40 | 37 | no | 30 | 31 | no | 10 | 32 | no |
| 27-May-03 | 30 | 46 | no | 10 | 31 | no | 10 | 32 | no |
| 2-Jun-03 | 110 | 60 | no | <10 | 31 | no | <10 | 24 | no |
| 9-Jun-03 | 130 | 44 | yes | 10 | 12 | yes | 10 | 10 | yes |
| 16-Jun-03 | 80 | 67 | yes | 80 | 19 | yes | 70 | 15 | yes |
| 23-Jun-03 | 50 | 70 | yes | 60 | 22 | yes | 80 | 22 | yes |
| 30-Jun-03 | 20 | 65 | yes | 20 | 25 | yes | 20 | 26 | yes |
| 7-Jul-03 | 30 | 50 | yes | 10 | 25 | yes | 20 | 30 | yes |
| 14-Jul-03 | 60 | 43 | yes | 270 | 48 | yes | 20 | 34 | yes |
| 21-Jul-03 | 70 | 42 | yes | 20 | 37 | yes | 30 | 29 | yes |
| 28-Jul-03 | 30 | 38 | yes | 20 | 29 | yes | 70 | 28 | yes |
| 4-Aug-03 | 20 | 38 | yes | <10 | 26 | yes | <10 | 24 | yes |
| 11-Aug-03 | 50 | 42 | yes | 40 | 34 | yes | 20 | 24 | yes |
| 21-Aug-03 | 100 | | ID | <10 | | ID | 10 | | ID |
| 25-Aug-03 | 20 | 36 | yes | 100 | 24 | yes | 10 | 17 | yes |
| 2-Sep-03 | 10 | 29 | yes | <10 | 21 | yes | <10 | 11 | yes |
| 8-Sep-03 | 480 | 54 | no | 40 | 28 | yes | 10 | 11 | yes |
| 15-Sep-03 | <10 | 39 | no | 10 | 21 | yes | <10 | 10 | yes |
| 22-Sep-03 | 10 | 25 | no | 10 | 21 | yes | <10 | 10 | yes |
| 29-Sep-03 | 50 | 30 | no | 150 | 23 | yes | <10 | 10 | yes |
| 6-Oct-03 | 30 | 37 | no | 10 | 23 | yes | <10 | 10 | yes |
| 14-Oct-03 | 20 | 20 | yes | <10 | 17 | yes | <10 | 10 | yes |
| 20-Oct-03 | 20 | 23 | yes | <10 | 17 | yes | 30 | 12 | yes |
| 27-Oct-03 | 10 | 23 | yes | 10 | 17 | yes | 30 | 16 | yes |
| 3-Nov-03 | 10 | 16 | yes | 20 | 11 | yes | >240 | 29 | yes |
| 12-Nov-03 | <10 | 13 | yes | 250 | 22 | yes | <10 | 29 | yes |
| 17-Nov-03 | 40 | 15 | yes | 10 | 22 | yes | 20 | 34 | yes |
| 24-Nov-03 | 10 | 13 | yes | <10 | 22 | yes | <10 | 27 | yes |
| 1-Dec-03 | 40 | 17 | yes | 120 | 36 | yes | <10 | 22 | yes |
| 9-Dec-03 | <10 | 17 | yes | 10 | 31 | yes | 30 | 14 | yes |
| 15-Dec-03 | 110 | 28 | yes | 40 | 22 | yes | 10 | 14 | yes |
| 22-Dec-03 | <10 | 21 | yes | 100 | 34 | yes | 10 | 12 | yes |
| 29-Dec-03 | <10 | 21 | yes | 10 | 34 | yes | 10 | 12 | yes |
| 5-Jan-04 | 10 | 16 | yes | 30 | 26 | yes | <10 | 12 | yes |
| 12-Jan-04 | 10 | 16 | yes | 560 | 58 | no | <10 | 10 | yes |
| 20-Jan-04 | 10 | 10 | yes | 10 | 44 | no | <10 | 10 | yes |
| 26-Jan-04 | <10 | 10 | yes | 50 | 38 | no | <10 | 10 | yes |
| 2-Feb-04 | 30 | 12 | yes | 10 | 38 | no | <10 | 10 | yes |
| 9-Feb-04 | 10 | 12 | yes | <10 | 31 | no | <10 | 10 | yes |
| 17-Feb-04 | <10 | 12 | yes | 10 | 14 | yes | 10 | 10 | yes |
| 23-Feb-04 | 270 | 24 | yes | 1000 | 35 | no | 600 | 23 | no |
| 1-Mar-04 | 30 | 30 | yes | 400 | 53 | no | 1070 | 58 | no |
| 8-Mar-04 | <10 | 24 | yes | 10 | 53 | no | <10 | 58 | no |
| 15-Mar-04 | <10 | 24 | yes | 40 | 69 | no | <10 | 58 | no |
| 22-Mar-04 | 40 | 32 | yes | 20 | 80 | no | <10 | 58 | no |
| 31-Mar-04 | 20 | 19 | yes | 40 | 42 | yes | 20 | 29 | no |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**LOWER BAY STATIONS**

| | 10th Street Beach | | | Alvarado/ Bay Isle Beach | | | N Street Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | <10 | 129 | no | <10 | 43 | no | <10 | 44 | no |
| 14-Apr-03 | 100 | 75 | no | 100 | 59 | no | 260 | 83 | no |
| 21-Apr-03 | 120 | 32 | yes | 60 | 23 | yes | 200 | 44 | yes |
| 30-Apr-03 | <10 | 26 | yes | 20 | 26 | yes | <10 | 35 | yes |
| 5-May-03 | 70 | 38 | yes | 410 | 55 | no | 20 | 40 | yes |
| 12-May-03 | <10 | 38 | yes | <10 | 55 | no | <10 | 40 | yes |
| 19-May-03 | 10 | 24 | yes | 10 | 35 | no | 100 | 33 | yes |
| 27-May-03 | <10 | 15 | yes | 10 | 24 | no | <10 | 18 | yes |
| 2-Jun-03 | <10 | 15 | yes | 10 | 21 | no | 10 | 18 | yes |
| 9-Jun-03 | 50 | 14 | yes | 70 | 15 | yes | 20 | 18 | yes |
| 16-Jun-03 | 10 | 14 | yes | 10 | 15 | yes | <10 | 18 | yes |
| 23-Jun-03 | <10 | 14 | yes | 20 | 17 | yes | 10 | 11 | yes |
| 30-Jun-03 | 10 | 14 | yes | 50 | 23 | yes | <10 | 11 | yes |
| 7-Jul-03 | 930 | 34 | no | 10 | 23 | yes | 20 | 13 | yes |
| 14-Jul-03 | 20 | 28 | no | 10 | 16 | yes | 80 | 17 | yes |
| 21-Jul-03 | 80 | 43 | no | 30 | 20 | yes | <10 | 17 | yes |
| 28-Jul-03 | 10 | 43 | no | 20 | 20 | yes | <10 | 17 | yes |
| 4-Aug-03 | 10 | 43 | no | <10 | 14 | yes | 10 | 17 | yes |
| 11-Aug-03 | 180 | 31 | yes | 30 | 18 | yes | 100 | 24 | yes |
| 21-Aug-03 | 660 | | no | <10 | | ID | <10 | | ID |
| 25-Aug-03 | 30 | 51 | no | 20 | 16 | yes | <10 | 16 | yes |
| 2-Sep-03 | 170 | 90 | no | 20 | 16 | yes | 20 | 18 | yes |
| 8-Sep-03 | 30 | 113 | no | 10 | 16 | yes | <10 | 18 | yes |
| 15-Sep-03 | <10 | 63 | no | 10 | 13 | yes | 20 | 13 | yes |
| 22-Sep-03 | 20 | 31 | yes | 20 | 15 | yes | 990 | 33 | no |
| 29-Sep-03 | 40 | 33 | yes | 20 | 15 | yes | 10 | 33 | no |
| 6-Oct-03 | 70 | 28 | yes | 20 | 15 | yes | 30 | 36 | no |
| 14-Oct-03 | 180 | 40 | yes | 20 | 17 | yes | <10 | 36 | no |
| 20-Oct-03 | 40 | 53 | yes | <10 | 17 | yes | 10 | 31 | no |
| 27-Oct-03 | 10 | 46 | yes | <10 | 15 | yes | <10 | 12 | yes |
| 3-Nov-03 | 560 | 78 | no | 400 | 28 | yes | 10 | 12 | yes |
| 12-Nov-03 | 460 | 113 | no | 10 | 24 | yes | <10 | 10 | yes |
| 17-Nov-03 | 50 | 88 | no | 10 | 21 | yes | <10 | 10 | yes |
| 24-Nov-03 | 1770 | 187 | no | 80 | 32 | yes | <10 | 10 | yes |
| 1-Dec-03 | 80 | 283 | no | 10 | 32 | yes | <10 | 10 | yes |
| 9-Dec-03 | 20 | 145 | no | 280 | 30 | yes | <10 | 10 | yes |
| 15-Dec-03 | 100 | 107 | no | 10 | 30 | yes | 10 | 10 | yes |
| 22-Dec-03 | 30 | 97 | no | 110 | 48 | yes | <10 | 10 | yes |
| 29-Dec-03 | 320 | 69 | yes | 150 | 54 | yes | 20 | 11 | yes |
| 5-Jan-04 | 30 | 57 | yes | 30 | 67 | yes | 10 | 11 | yes |
| 12-Jan-04 | 10 | 49 | yes | 30 | 43 | yes | <10 | 11 | yes |
| 20-Jan-04 | 240 | 59 | yes | 260 | 83 | yes | 10 | 11 | yes |
| 26-Jan-04 | <10 | 47 | yes | <10 | 51 | yes | 10 | 11 | yes |
| 2-Feb-04 | 10 | 24 | yes | <10 | 30 | yes | 20 | 11 | yes |
| 9-Feb-04 | <10 | 19 | yes | <10 | 24 | yes | <10 | 11 | yes |
| 17-Feb-04 | 20 | 22 | yes | <10 | 19 | yes | 20 | 13 | yes |
| 23-Feb-04 | 2000 | 33 | no | 1000 | 25 | no | 260 | 25 | yes |
| 1-Mar-04 | 260 | 64 | no | 40 | 33 | no | 10 | 25 | yes |
| 8-Mar-04 | 10 | 64 | no | <10 | 33 | no | <10 | 22 | yes |
| 15-Mar-04 | <10 | 64 | no | 10 | 33 | no | 120 | 36 | yes |
| 22-Mar-04 | 30 | 69 | no | <10 | 33 | no | <10 | 32 | yes |
| 31-Mar-04 | 110 | 39 | yes | 20 | 15 | yes | <10 | 16 | yes |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**LOWER BAY STATIONS**

| | Garnet Avenue Beach | | | Ruby Avenue Beach | | | Sapphire Avenue Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | 70 | 85 | no | <10 | 39 | no | <10 | 79 | no |
| 14-Apr-03 | 60 | 88 | no | 40 | 52 | no | 20 | 90 | no |
| 21-Apr-03 | 60 | 35 | yes | <10 | 13 | yes | 30 | 32 | yes |
| 30-Apr-03 | 40 | 40 | yes | 30 | 16 | yes | <10 | 25 | yes |
| 5-May-03 | 340 | 81 | yes | 70 | 24 | yes | 490 | 31 | no |
| 12-May-03 | <10 | 55 | yes | <10 | 24 | yes | 10 | 31 | no |
| 19-May-03 | 100 | 61 | yes | 10 | 18 | yes | <10 | 27 | no |
| 27-May-03 | 40 | 56 | yes | 10 | 18 | yes | <10 | 22 | no |
| 2-Jun-03 | 30 | 53 | yes | <10 | 15 | yes | 80 | 33 | no |
| 9-Jun-03 | 40 | 34 | yes | <10 | 10 | yes | 260 | 29 | yes |
| 16-Jun-03 | <10 | 34 | yes | <10 | 10 | yes | 70 | 43 | yes |
| 23-Jun-03 | 10 | 22 | yes | <10 | 10 | yes | 40 | 57 | yes |
| 30-Jun-03 | 60 | 24 | yes | <10 | 10 | yes | 20 | 65 | yes |
| 7-Jul-03 | 20 | 22 | yes | 20 | 11 | yes | 20 | 49 | yes |
| 14-Jul-03 | 110 | 27 | yes | 10 | 11 | yes | 10 | 26 | yes |
| 21-Jul-03 | 2400 | 79 | no | <10 | 11 | yes | 50 | 24 | yes |
| 28-Jul-03 | 70 | 117 | no | 30 | 14 | yes | 20 | 21 | yes |
| 4-Aug-03 | 80 | 124 | no | 10 | 14 | yes | 30 | 23 | yes |
| 11-Aug-03 | 80 | 164 | no | 10 | 12 | yes | <10 | 20 | yes |
| 21-Aug-03 | 20 | | ID | <10 | | ID | <10 | | ID |
| 25-Aug-03 | 260 | 75 | yes | 20 | 14 | yes | <10 | 14 | yes |
| 2-Sep-03 | 30 | 63 | yes | <10 | 11 | yes | 20 | 14 | yes |
| 8-Sep-03 | 480 | 90 | no | <10 | 11 | yes | 10 | 11 | yes |
| 15-Sep-03 | 100 | 94 | no | <10 | 11 | yes | 10 | 11 | yes |
| 22-Sep-03 | 40 | 108 | no | 80 | 17 | yes | 20 | 13 | yes |
| 29-Sep-03 | 10 | 57 | no | <10 | 15 | yes | <10 | 13 | yes |
| 6-Oct-03 | 30 | 57 | no | 930 | 38 | no | <10 | 11 | yes |
| 14-Oct-03 | 130 | 44 | yes | 10 | 38 | no | 10 | 11 | yes |
| 20-Oct-03 | 60 | 39 | yes | <10 | 38 | no | 80 | 17 | yes |
| 27-Oct-03 | 10 | 30 | yes | 30 | 31 | no | 10 | 15 | yes |
| 3-Nov-03 | 470 | 64 | no | 680 | 72 | no | 260 | 29 | yes |
| 12-Nov-03 | <10 | 52 | no | 370 | 60 | no | 10 | 29 | yes |
| 17-Nov-03 | <10 | 31 | no | <10 | 60 | no | <10 | 29 | yes |
| 24-Nov-03 | 10 | 22 | no | 40 | 79 | no | 10 | 19 | yes |
| 1-Dec-03 | <10 | 22 | no | 10 | 63 | no | <10 | 19 | yes |
| 9-Dec-03 | <10 | 10 | yes | 20 | 31 | yes | 10 | 10 | yes |
| 15-Dec-03 | <10 | 10 | yes | 10 | 15 | yes | <10 | 10 | yes |
| 22-Dec-03 | 10 | 10 | yes | 20 | 17 | yes | 10 | 10 | yes |
| 29-Dec-03 | <10 | 10 | yes | 10 | 13 | yes | <10 | 10 | yes |
| 5-Jan-04 | 110 | 16 | yes | 20 | 15 | yes | 10 | 10 | yes |
| 12-Jan-04 | <10 | 16 | yes | 20 | 15 | yes | <10 | 10 | yes |
| 20-Jan-04 | <10 | 16 | yes | 100 | 24 | yes | 10 | 10 | yes |
| 26-Jan-04 | <10 | 16 | yes | <10 | 21 | yes | <10 | 10 | yes |
| 2-Feb-04 | 10 | 16 | yes | <10 | 21 | yes | <10 | 10 | yes |
| 9-Feb-04 | <10 | 10 | yes | 10 | 18 | yes | <10 | 10 | yes |
| 17-Feb-04 | <10 | 10 | yes | <10 | 16 | yes | 10 | 10 | yes |
| 23-Feb-04 | 1000 | 25 | no | 1000 | 25 | no | 180 | 18 | yes |
| 1-Mar-04 | 30 | 31 | no | 220 | 47 | no | 280 | 35 | yes |
| 8-Mar-04 | 20 | 36 | no | 10 | 47 | no | <10 | 35 | yes |
| 15-Mar-04 | <10 | 36 | no | <10 | 47 | no | 20 | 40 | yes |
| 22-Mar-04 | <10 | 36 | no | 20 | 54 | no | <10 | 40 | yes |
| 31-Mar-04 | 20 | 16 | yes | <10 | 21 | yes | <10 | 22 | yes |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**LOWER BAY STATIONS**

| | Grand Canal | | | Abalone Avenue Beach | | | Park Avenue Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | 10 | 65 | no | <10 | 38 | no | <10 | 52 | no |
| 14-Apr-03 | 120 | 106 | no | 100 | 60 | no | >1620 | 144 | no |
| 21-Apr-03 | 70 | 41 | yes | 10 | 16 | yes | <10 | 38 | no |
| 30-Apr-03 | 290 | 48 | yes | <10 | 16 | yes | <10 | 28 | no |
| 5-May-03 | 250 | 91 | yes | 290 | 31 | yes | 270 | 53 | no |
| 12-May-03 | <10 | 91 | yes | 30 | 39 | yes | 10 | 53 | no |
| 19-May-03 | 10 | 55 | yes | 10 | 24 | yes | 40 | 26 | yes |
| 27-May-03 | 10 | 37 | yes | <10 | 24 | yes | <10 | 26 | yes |
| 2-Jun-03 | <10 | 19 | yes | 110 | 39 | yes | <10 | 26 | yes |
| 9-Jun-03 | 10 | 10 | yes | <10 | 20 | yes | <10 | 13 | yes |
| 16-Jun-03 | 30 | 12 | yes | 20 | 19 | yes | 10 | 13 | yes |
| 23-Jun-03 | 20 | 14 | yes | 50 | 26 | yes | <10 | 10 | yes |
| 30-Jun-03 | 140 | 24 | yes | <10 | 26 | yes | <10 | 10 | yes |
| 7-Jul-03 | 20 | 28 | yes | 30 | 20 | yes | <10 | 10 | yes |
| 14-Jul-03 | 20 | 32 | yes | <10 | 20 | yes | 10 | 10 | yes |
| 21-Jul-03 | <10 | 26 | yes | <10 | 17 | yes | 10 | 10 | yes |
| 28-Jul-03 | 20 | 26 | yes | <10 | 12 | yes | 10 | 10 | yes |
| 4-Aug-03 | 310 | 30 | yes | 30 | 16 | yes | 10 | 10 | yes |
| 11-Aug-03 | 10 | 26 | yes | <10 | 12 | yes | <10 | 10 | yes |
| 21-Aug-03 | 10 | | ID | <10 | | ID | 10 | | ID |
| 25-Aug-03 | 20 | 26 | yes | <10 | 12 | yes | 30 | 12 | yes |
| 2-Sep-03 | 40 | 30 | yes | <10 | 12 | yes | <10 | 12 | yes |
| 8-Sep-03 | <10 | 15 | yes | <10 | 10 | yes | 20 | 14 | yes |
| 15-Sep-03 | <10 | 15 | yes | 10 | 10 | yes | 10 | 14 | yes |
| 22-Sep-03 | 10 | 15 | yes | 360 | 20 | yes | 80 | 22 | yes |
| 29-Sep-03 | <10 | 13 | yes | <10 | 20 | yes | <10 | 17 | yes |
| 6-Oct-03 | 10 | 10 | yes | 10 | 20 | yes | 20 | 20 | yes |
| 14-Oct-03 | 10 | 10 | yes | <10 | 20 | yes | 30 | 22 | yes |
| 20-Oct-03 | <10 | 10 | yes | 10 | 20 | yes | 10 | 22 | yes |
| 27-Oct-03 | <10 | 10 | yes | <10 | 10 | yes | 10 | 14 | yes |
| 3-Nov-03 | 100 | 16 | yes | 140 | 17 | yes | 40 | 19 | yes |
| 12-Nov-03 | <10 | 16 | yes | 10 | 17 | yes | 20 | 19 | yes |
| 17-Nov-03 | <10 | 16 | yes | 10 | 17 | yes | <10 | 15 | yes |
| 24-Nov-03 | <10 | 16 | yes | <10 | 17 | yes | <10 | 15 | yes |
| 1-Dec-03 | <10 | 16 | yes | <10 | 17 | yes | 10 | 15 | yes |
| 9-Dec-03 | 10 | 10 | yes | <10 | 10 | yes | <10 | 11 | yes |
| 15-Dec-03 | 530 | 22 | no | <10 | 10 | yes | <10 | 10 | yes |
| 22-Dec-03 | <10 | 22 | no | 260 | 19 | yes | <10 | 10 | yes |
| 29-Dec-03 | 20 | 25 | no | <10 | 19 | yes | 10 | 10 | yes |
| 5-Jan-04 | 10 | 25 | no | <10 | 19 | yes | <10 | 10 | yes |
| 12-Jan-04 | <10 | 25 | no | <10 | 19 | yes | 60 | 14 | yes |
| 20-Jan-04 | 10 | 11 | yes | 20 | 22 | yes | 10 | 14 | yes |
| 26-Jan-04 | 10 | 11 | yes | 10 | 11 | yes | 20 | 16 | yes |
| 2-Feb-04 | <10 | 10 | yes | <10 | 11 | yes | <10 | 16 | yes |
| 9-Feb-04 | <10 | 10 | yes | 10 | 11 | yes | 10 | 16 | yes |
| 17-Feb-04 | <10 | 10 | yes | 10 | 11 | yes | <10 | 11 | yes |
| 23-Feb-04 | 180 | 18 | yes | 200 | 18 | yes | 210 | 21 | yes |
| 1-Mar-04 | 30 | 22 | yes | 110 | 29 | yes | 20 | 21 | yes |
| 8-Mar-04 | 50 | 31 | yes | <10 | 29 | yes | <10 | 21 | yes |
| 15-Mar-04 | <10 | 31 | yes | 10 | 29 | yes | <10 | 21 | yes |
| 22-Mar-04 | <10 | 31 | yes | 30 | 37 | yes | <10 | 21 | yes |
| 31-Mar-04 | 10 | 17 | yes | 10 | 20 | yes | <10 | 11 | yes |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**LOWER BAY STATIONS**

| | Onyx Avenue Beach | | | Promontory Point Channel | | | Harbor Patrol Beach | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | <10 | 38 | no | <10 | 35 | no | 600 | 250 | no |
| 14-Apr-03 | 140 | 65 | no | 400 | 73 | no | <10 | 165 | no |
| 21-Apr-03 | <10 | 17 | yes | <10 | 21 | yes | 440 | 90 | no |
| 30-Apr-03 | <10 | 17 | yes | <10 | 21 | yes | 30 | 60 | no |
| 5-May-03 | 120 | 28 | yes | 10 | 21 | yes | 4000 | 200 | no |
| 12-May-03 | <10 | 28 | yes | <10 | 21 | yes | 190 | 159 | no |
| 19-May-03 | <10 | 16 | yes | <10 | 10 | yes | 900 | 390 | no |
| 27-May-03 | 10 | 16 | yes | <10 | 10 | yes | 20 | 210 | no |
| 2-Jun-03 | 30 | 20 | yes | <10 | 10 | yes | 210 | 310 | no |
| 9-Jun-03 | 9800 | 49 | no | 10 | 10 | yes | 40 | 123 | no |
| 16-Jun-03 | 60 | 71 | no | <10 | 10 | yes | 80 | 104 | no |
| 23-Jun-03 | <10 | 71 | no | 10 | 10 | yes | 180 | 75 | yes |
| 30-Jun-03 | 20 | 81 | no | <10 | 10 | yes | 200 | 119 | yes |
| 7-Jul-03 | 20 | 75 | no | >10 | 10 | yes | 80 | 98 | yes |
| 14-Jul-03 | <10 | 19 | yes | <10 | 10 | yes | 2400 | 223 | no |
| 21-Jul-03 | 20 | 15 | yes | <10 | 10 | yes | 350 | 300 | no |
| 28-Jul-03 | 10 | 15 | yes | <10 | 10 | yes | 110 | 272 | no |
| 4-Aug-03 | 20 | 15 | yes | <10 | 10 | yes | 140 | 253 | no |
| 11-Aug-03 | <10 | 13 | yes | <10 | 10 | yes | 60 | 239 | no |
| 21-Aug-03 | <10 | | ID | <10 | | ID | 80 | | ID |
| 25-Aug-03 | 30 | 14 | yes | <10 | 10 | yes | 30 | 74 | yes |
| 2-Sep-03 | 20 | 16 | yes | <10 | 10 | yes | 30 | 57 | yes |
| 8-Sep-03 | 20 | 16 | yes | <10 | 10 | yes | 10 | 34 | yes |
| 15-Sep-03 | 10 | 16 | yes | <10 | 10 | yes | 20 | 27 | yes |
| 22-Sep-03 | 40 | 22 | yes | <10 | 10 | yes | 10 | 18 | yes |
| 29-Sep-03 | <10 | 17 | yes | <10 | 10 | yes | 10 | 14 | yes |
| 6-Oct-03 | 10 | 15 | yes | <10 | 10 | yes | <10 | 11 | yes |
| 14-Oct-03 | <10 | 13 | yes | <10 | 10 | yes | 30 | 14 | yes |
| 20-Oct-03 | <10 | 13 | yes | <10 | 10 | yes | <10 | 12 | yes |
| 27-Oct-03 | 40 | 13 | yes | <10 | 10 | yes | <10 | 12 | yes |
| 3-Nov-03 | 280 | 26 | yes | 50 | 14 | yes | 100 | 20 | yes |
| 12-Nov-03 | <10 | 26 | yes | <10 | 14 | yes | <10 | 20 | yes |
| 17-Nov-03 | <10 | 26 | yes | <10 | 14 | yes | <10 | 16 | yes |
| 24-Nov-03 | 1640 | 71 | no | <10 | 14 | yes | 20 | 18 | yes |
| 1-Dec-03 | 30 | 67 | no | <10 | 14 | yes | <10 | 18 | yes |
| 9-Dec-03 | 20 | 40 | no | <10 | 10 | yes | 10 | 11 | yes |
| 15-Dec-03 | 10 | 40 | no | <10 | 10 | yes | <10 | 11 | yes |
| 22-Dec-03 | 490 | 86 | no | <10 | 10 | yes | <10 | 11 | yes |
| 29-Dec-03 | 40 | 41 | no | <10 | 10 | yes | 10 | 10 | yes |
| 5-Jan-04 | 10 | 33 | no | <10 | 10 | yes | <10 | 10 | yes |
| 12-Jan-04 | 10 | 29 | no | <10 | 10 | yes | 30 | 12 | yes |
| 20-Jan-04 | 100 | 46 | no | <10 | 10 | yes | 30 | 16 | yes |
| 26-Jan-04 | <10 | 21 | yes | <10 | 10 | yes | <10 | 16 | yes |
| 2-Feb-04 | 10 | 16 | yes | <10 | 10 | yes | 10 | 16 | yes |
| 9-Feb-04 | <10 | 16 | yes | <10 | 10 | yes | <10 | 16 | yes |
| 17-Feb-04 | <10 | 16 | yes | <10 | 10 | yes | 10 | 12 | yes |
| 23-Feb-04 | 140 | 17 | yes | 170 | 18 | yes | 300 | 20 | yes |
| 1-Mar-04 | 830 | 41 | no | 10 | 18 | yes | 70 | 29 | yes |
| 8-Mar-04 | <10 | 41 | no | <10 | 18 | yes | <10 | 29 | yes |
| 15-Mar-04 | <10 | 41 | no | <10 | 18 | yes | 190 | 53 | yes |
| 22-Mar-04 | 10 | 41 | no | <10 | 18 | yes | 240 | 99 | yes |
| 31-Mar-04 | <10 | 24 | no | <10 | 10 | yes | 150 | 86 | yes |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

# TABLE 2

## RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

### LOWER BAY STATIONS

| | Rocky Point Beach | | |
|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | <10 | 59 | no |
| 14-Apr-03 | 420 | 108 | no |
| 21-Apr-03 | <10 | 30 | no |
| 30-Apr-03 | <10 | 21 | no |
| 5-May-03 | 380 | 44 | no |
| 12-May-03 | 20 | 50 | no |
| 19-May-03 | <10 | 24 | yes |
| 27-May-03 | 10 | 24 | yes |
| 2-Jun-03 | <10 | 24 | yes |
| 9-Jun-03 | <10 | 11 | yes |
| 16-Jun-03 | <10 | 10 | yes |
| 23-Jun-03 | 10 | 10 | yes |
| 30-Jun-03 | <10 | 10 | yes |
| 7-Jul-03 | <10 | 10 | yes |
| 14-Jul-03 | <10 | 10 | yes |
| 21-Jul-03 | <10 | 10 | yes |
| 28-Jul-03 | 110 | 16 | yes |
| 4-Aug-03 | 20 | 19 | yes |
| 11-Aug-03 | 10 | 19 | yes |
| 21-Aug-03 | <10 | | ID |
| 25-Aug-03 | <10 | 19 | yes |
| 2-Sep-03 | <10 | 11 | yes |
| 8-Sep-03 | <10 | 10 | yes |
| 15-Sep-03 | 20 | 11 | yes |
| 22-Sep-03 | <10 | 11 | yes |
| 29-Sep-03 | 30 | 14 | yes |
| 6-Oct-03 | 10 | 14 | yes |
| 14-Oct-03 | <10 | 14 | yes |
| 20-Oct-03 | <10 | 12 | yes |
| 27-Oct-03 | <10 | 12 | yes |
| 3-Nov-03 | 40 | 13 | yes |
| 12-Nov-03 | <10 | 13 | yes |
| 17-Nov-03 | 30 | 16 | yes |
| 24-Nov-03 | <10 | 16 | yes |
| 1-Dec-03 | <10 | 16 | yes |
| 9-Dec-03 | <10 | 12 | yes |
| 15-Dec-03 | <10 | 12 | yes |
| 22-Dec-03 | <10 | 10 | yes |
| 29-Dec-03 | 10 | 10 | yes |
| 5-Jan-04 | <10 | 10 | yes |
| 12-Jan-04 | <10 | 10 | yes |
| 20-Jan-04 | 10 | 10 | yes |
| 26-Jan-04 | <10 | 10 | yes |
| 2-Feb-04 | <10 | 10 | yes |
| 9-Feb-04 | <10 | 10 | yes |
| 17-Feb-04 | 10 | 10 | yes |
| 23-Feb-04 | 20 | 11 | yes |
| 1-Mar-04 | 30 | 14 | yes |
| 8-Mar-04 | <10 | 14 | yes |
| 15-Mar-04 | 10 | 14 | yes |
| 22-Mar-04 | <10 | 14 | yes |
| 31-Mar-04 | <10 | 12 | yes |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**UPPER BAY STATIONS**

| | Bayshore Beach | | | De Anza Launch | | | Newport Dunes West | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | 20 | 59 | no | 630 | 109 | no | 120 | 146 | no |
| 14-Apr-03 | 10 | 52 | no | <10 | 109 | no | 10 | 146 | no |
| 21-Apr-03 | <10 | 14 | yes | <10 | 30 | no | <10 | 28 | yes |
| 30-Apr-03 | 6800 | 42 | no | 4600 | 78 | no | 11000 | 67 | no |
| 5-May-03 | 10 | 42 | no | <10 | 78 | no | <10 | 67 | no |
| 12-May-03 | <10 | 37 | no | <10 | 34 | no | 10 | 41 | no |
| 19-May-03 | 10 | 37 | no | <10 | 34 | no | 30 | 51 | no |
| 27-May-03 | 10 | 37 | no | <10 | 34 | no | 80 | 77 | no |
| 2-Jun-03 | <10 | 10 | yes | 10 | 10 | yes | 10 | 19 | yes |
| 9-Jun-03 | 10 | 10 | yes | 30 | 12 | yes | <10 | 19 | yes |
| 16-Jun-03 | 30 | 12 | yes | 10 | 12 | yes | <10 | 19 | yes |
| 23-Jun-03 | <10 | 12 | yes | 10 | 12 | yes | <10 | 15 | yes |
| 30-Jun-03 | <10 | 12 | yes | 10 | 12 | yes | 60 | 14 | yes |
| 7-Jul-03 | 10 | 12 | yes | 10 | 12 | yes | <10 | 14 | yes |
| 14-Jul-03 | 30 | 16 | yes | 10 | 10 | yes | 20 | 16 | yes |
| 21-Jul-03 | <10 | 12 | yes | 80 | 15 | yes | <10 | 16 | yes |
| 28-Jul-03 | 170 | 22 | yes | <10 | 15 | yes | 10 | 16 | yes |
| 4-Aug-03 | 40 | 29 | yes | 20 | 17 | yes | 10 | 11 | yes |
| 11-Aug-03 | <10 | 29 | yes | 10 | 17 | yes | <10 | 11 | yes |
| 21-Aug-03 | <10 | | ID | 20 | | ID | <10 | | ID |
| 25-Aug-03 | <10 | 23 | yes | 10 | 13 | yes | 100 | 16 | yes |
| 2-Sep-03 | 10 | 13 | yes | <10 | 13 | yes | <10 | 16 | yes |
| 8-Sep-03 | 100 | 16 | yes | <10 | 11 | yes | 20 | 18 | yes |
| 15-Sep-03 | 10 | 16 | yes | 10 | 11 | yes | 60 | 26 | yes |
| 22-Sep-03 | <10 | 16 | yes | 30 | 12 | yes | 10 | 26 | yes |
| 29-Sep-03 | <10 | 16 | yes | 20 | 14 | yes | <10 | 16 | yes |
| 6-Oct-03 | <10 | 16 | yes | 20 | 16 | yes | <10 | 16 | yes |
| 14-Oct-03 | <10 | 10 | yes | 10 | 16 | yes | 20 | 16 | yes |
| 20-Oct-03 | 10 | 10 | yes | 40 | 22 | yes | <10 | 11 | yes |
| 27-Oct-03 | 1130 | 26 | no | 2000 | 50 | no | Cw/C | 60 | no |
| 3-Nov-03 | 20 | 30 | no | <10 | 44 | no | 60 | 86 | no |
| 12-Nov-03 | <10 | 30 | no | 20 | 44 | no | 60 | 124 | no |
| 17-Nov-03 | 10 | 30 | no | <10 | 44 | no | 20 | 124 | no |
| 24-Nov-03 | 100 | 47 | no | <10 | 33 | no | <10 | 124 | no |
| 1-Dec-03 | <10 | 18 | yes | 20 | 13 | yes | 260 | 45 | yes |
| 9-Dec-03 | <10 | 16 | yes | <10 | 13 | yes | 120 | 52 | yes |
| 15-Dec-03 | <10 | 16 | yes | 780 | 27 | no | 30 | 45 | yes |
| 22-Dec-03 | <10 | 16 | yes | 50 | 38 | no | 30 | 49 | yes |
| 29-Dec-03 | 20 | 11 | yes | 20 | 44 | no | 270 | 95 | yes |
| 5-Jan-04 | <10 | 11 | yes | <10 | 38 | no | 10 | 49 | yes |
| 12-Jan-04 | <10 | 11 | yes | <10 | 38 | no | 110 | 48 | yes |
| 20-Jan-04 | <10 | 11 | yes | 10 | 16 | yes | 10 | 39 | yes |
| 26-Jan-04 | <10 | 11 | yes | <10 | 11 | yes | 40 | 41 | yes |
| 2-Feb-04 | <10 | 10 | yes | <10 | 10 | yes | <10 | 21 | yes |
| 9-Feb-04 | 30 | 12 | yes | 10 | 10 | yes | 40 | 28 | yes |
| 17-Feb-04 | 1000 | 31 | no | 2400 | 30 | no | 4000 | 58 | no |
| 23-Feb-04 | 230 | 59 | no | 220 | 56 | no | 60 | 83 | no |
| 1-Mar-04 | 30 | 73 | no | 10 | 56 | no | <10 | 63 | no |
| 8-Mar-04 | <10 | 73 | no | 20 | 64 | no | 80 | 95 | no |
| 15-Mar-04 | <10 | 59 | no | 20 | 73 | no | 80 | 109 | no |
| 22-Mar-04 | 30 | 29 | yes | 470 | 53 | no | <10 | 33 | yes |
| 31-Mar-04 | 30 | 19 | yes | <10 | 28 | no | 30 | 29 | yes |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**UPPER BAY STATIONS**

| | Newport Dunes Middle | | | Newport Dunes East | | | Newport Dunes North | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | 60 | 127 | no | 1250 | 395 | no | 1510 | 502 | no |
| 14-Apr-03 | <10 | 127 | no | 10 | 261 | no | 10 | 249 | no |
| 21-Apr-03 | 10 | 24 | yes | 20 | 57 | no | 30 | 59 | no |
| 30-Apr-03 | 8400 | 55 | no | >11000 | 162 | no | >24400 | 162 | no |
| 5-May-03 | 10 | 55 | no | 30 | 153 | no | 30 | 201 | no |
| 12-May-03 | <10 | 38 | no | 10 | 58 | no | 20 | 85 | no |
| 19-May-03 | 10 | 38 | no | 20 | 67 | no | 180 | 151 | no |
| 27-May-03 | <10 | 38 | no | 20 | 67 | no | 20 | 139 | no |
| 2-Jun-03 | 20 | 11 | yes | 30 | 20 | yes | <10 | 29 | yes |
| 9-Jun-03 | 30 | 14 | yes | 40 | 22 | yes | 60 | 34 | yes |
| 16-Jun-03 | 10 | 14 | yes | 160 | 38 | yes | 20 | 34 | yes |
| 23-Jun-03 | <10 | 14 | yes | 60 | 47 | yes | <10 | 19 | yes |
| 30-Jun-03 | 30 | 18 | yes | 10 | 41 | yes | 10 | 16 | yes |
| 7-Jul-03 | 20 | 18 | yes | 20 | 38 | yes | 300 | 32 | yes |
| 14-Jul-03 | 20 | 16 | yes | 20 | 33 | yes | 10 | 23 | yes |
| 21-Jul-03 | <10 | 16 | yes | <10 | 19 | yes | 730 | 47 | no |
| 28-Jul-03 | <10 | 16 | yes | 40 | 17 | yes | <10 | 47 | no |
| 4-Aug-03 | 20 | 15 | yes | <10 | 17 | yes | 80 | 71 | no |
| 11-Aug-03 | 10 | 13 | yes | 70 | 22 | yes | 1050 | 91 | no |
| 21-Aug-03 | 30 | | ID | <10 | | ID | 1000 | | no |
| 25-Aug-03 | <10 | 14 | yes | <10 | 19 | yes | 930 | 239 | no |
| 2-Sep-03 | 30 | 18 | yes | <10 | 15 | yes | 50 | 330 | no |
| 8-Sep-03 | <10 | 16 | yes | 20 | 17 | yes | 1470 | 590 | no |
| 15-Sep-03 | 60 | 22 | yes | 460 | 25 | no | 80 | 353 | no |
| 22-Sep-03 | <10 | 18 | yes | 10 | 25 | no | 1460 | 381 | no |
| 29-Sep-03 | <10 | 18 | yes | 20 | 28 | no | 80 | 233 | no |
| 6-Oct-03 | 10 | 14 | yes | 130 | 47 | no | 50 | 233 | no |
| 14-Oct-03 | 10 | 14 | yes | 30 | 51 | no | 10 | 86 | no |
| 20-Oct-03 | <10 | 10 | yes | 40 | 32 | yes | 80 | 86 | no |
| 27-Oct-03 | Cw/C | 53 | no | Cw/C | 166 | no | Cw/C | 167 | no |
| 3-Nov-03 | 70 | 78 | no | 50 | 199 | no | 200 | 200 | no |
| 12-Nov-03 | 40 | 102 | no | 60 | 170 | no | 800 | 348 | no |
| 17-Nov-03 | 20 | 118 | no | 30 | 170 | no | 60 | 498 | no |
| 24-Nov-03 | 20 | 135 | no | 40 | 170 | no | 60 | 470 | no |
| 1-Dec-03 | 430 | 55 | no | 430 | 69 | no | 640 | 206 | no |
| 9-Dec-03 | 160 | 64 | no | 70 | 74 | no | 80 | 171 | no |
| 15-Dec-03 | 130 | 81 | no | 30 | 64 | no | <10 | 71 | no |
| 22-Dec-03 | 40 | 94 | no | 100 | 82 | no | 40 | 66 | no |
| 29-Dec-03 | 190 | 147 | no | 180 | 110 | no | 160 | 80 | no |
| 5-Jan-04 | 30 | 86 | yes | 10 | 52 | yes | 50 | 48 | yes |
| 12-Jan-04 | 70 | 73 | yes | 100 | 56 | yes | 30 | 39 | yes |
| 20-Jan-04 | <10 | 44 | yes | 320 | 90 | yes | 100 | 63 | yes |
| 26-Jan-04 | 100 | 53 | yes | 60 | 81 | yes | 80 | 72 | yes |
| 2-Feb-04 | 80 | 44 | yes | 10 | 45 | yes | 60 | 59 | yes |
| 9-Feb-04 | 40 | 47 | yes | 140 | 77 | yes | 100 | 68 | yes |
| 17-Feb-04 | 2600 | 96 | no | 2800 | 150 | no | 4200 | 182 | no |
| 23-Feb-04 | 230 | 180 | no | 1900 | 214 | no | 3400 | 369 | no |
| 1-Mar-04 | 20 | 131 | no | <10 | 149 | no | 100 | 386 | no |
| 8-Mar-04 | 50 | 119 | no | 210 | 275 | no | 130 | 451 | no |
| 15-Mar-04 | 50 | 124 | no | 210 | 298 | no | 130 | 475 | no |
| 22-Mar-04 | 20 | 47 | yes | 30 | 120 | no | 270 | 274 | no |
| 31-Mar-04 | 120 | 41 | yes | 120 | 69 | yes | 40 | 113 | yes |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**UPPER BAY STATIONS**

| | North Star Beach | | | Vaughn's Launch | | | Ski Zone | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | <10 | 97 | no | 110 | | no | 10 | | no |
| 14-Apr-03 | 30 | 97 | no | NS | | no | NS | | no |
| 21-Apr-03 | 10 | 18 | yes | 510 | | no | NS | | ID |
| 30-Apr-03 | 18000 | 56 | no | NS | | no | NS | | ID |
| 5-May-03 | <10 | 56 | no | <10 | | no | <10 | | ID |
| 12-May-03 | 10 | 56 | no | NS | | no | NS | | ID |
| 19-May-03 | <10 | 45 | no | NS | | no | NS | | ID |
| 27-May-03 | <10 | 45 | no | NS | | ID | NS | | ID |
| 2-Jun-03 | 10 | 10 | yes | NS | | ID | NS | | ID |
| 9-Jun-03 | 10 | 10 | yes | NS | | ID | NS | | ID |
| 16-Jun-03 | <10 | 10 | yes | NS | | ID | NS | | ID |
| 23-Jun-03 | <10 | 10 | yes | NS | | ID | NS | | ID |
| 30-Jun-03 | <10 | 10 | yes | NS | | ID | NS | | ID |
| 7-Jul-03 | 20 | 11 | yes | <10 | | ID | NS | | ID |
| 14-Jul-03 | <10 | 11 | yes | NS | | ID | NS | | ID |
| 21-Jul-03 | <10 | 11 | yes | 20 | | ID | NS | | ID |
| 28-Jul-03 | <10 | 11 | yes | NS | | ID | NS | | ID |
| 4-Aug-03 | 20 | 13 | yes | <10 | | ID | <10 | | ID |
| 11-Aug-03 | 10 | 11 | yes | NS | | ID | NS | | ID |
| 21-Aug-03 | 20 | | ID | <10 | | ID | <10 | | ID |
| 25-Aug-03 | <10 | 13 | yes | NS | | ID | NS | | ID |
| 2-Sep-03 | 10 | 13 | yes | 20 | | ID | <10 | | ID |
| 8-Sep-03 | <10 | 11 | yes | NS | | ID | NS | | ID |
| 15-Sep-03 | 1000 | 29 | no | NS | | ID | NS | | ID |
| 22-Sep-03 | 10 | 25 | no | 50 | | ID | <10 | | ID |
| 29-Sep-03 | <10 | 25 | no | 30 | | ID | <10 | | ID |
| 6-Oct-03 | 10 | 25 | no | 10 | | ID | 10 | | ID |
| 14-Oct-03 | 10 | 25 | no | NS | | ID | NS | | ID |
| 20-Oct-03 | 10 | 10 | yes | 60 | | ID | 10 | | ID |
| 27-Oct-03 | 3000 | 31 | no | 6800 | | no | Cw/C | | no |
| 3-Nov-03 | <10 | 31 | no | 10 | | no | <10 | | no |
| 12-Nov-03 | 30 | 39 | no | 100 | | no | NS | | no |
| 17-Nov-03 | 30 | 49 | no | 20 | 96 | no | 30 | | no |
| 24-Nov-03 | <10 | 49 | no | <10 | 67 | no | NS | | no |
| 1-Dec-03 | 80 | 24 | yes | 100 | 29 | yes | 280 | | ID |
| 9-Dec-03 | 1140 | 61 | no | NS | | ID | NS | | ID |
| 15-Dec-03 | <10 | 49 | no | NS | | ID | NS | | ID |
| 22-Dec-03 | 180 | 70 | no | NS | | ID | NS | | ID |
| 29-Dec-03 | 20 | 80 | no | 20 | | ID | 100 | | ID |
| 5-Jan-04 | 110 | 85 | no | 60 | | ID | 40 | | ID |
| 12-Jan-04 | 10 | 33 | yes | 40 | | ID | 10 | | ID |
| 20-Jan-04 | 60 | 47 | yes | 10 | | ID | 30 | | ID |
| 26-Jan-04 | 10 | 27 | yes | 80 | 33 | yes | 250 | 27 | yes |
| 2-Feb-04 | 10 | 23 | yes | 20 | 33 | yes | <10 | 23 | yes |
| 9-Feb-04 | 10 | 14 | yes | 70 | 34 | yes | <10 | 21 | yes |
| 17-Feb-04 | 1000 | 36 | no | NS | | ID | NS | | ID |
| 23-Feb-04 | 570 | 56 | no | NS | | ID | NS | | ID |
| 1-Mar-04 | <10 | 56 | no | 380 | | ID | 10 | | ID |
| 8-Mar-04 | 60 | 81 | no | 140 | | ID | NS | | ID |
| 15-Mar-04 | 60 | 115 | no | 140 | | ID | NS | | ID |
| 22-Mar-04 | 10 | 46 | no | NS | | ID | NS | | ID |
| 31-Mar-04 | <10 | 20 | yes | 10 | | ID | NS | | ID |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

* Geometric means and 30-day objective are based on 5 samples from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled with Coliforms

## TABLE 2

### RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

**TRIBUTARY STATIONS**

| | Back Bay Dr. Drain | | | Big Canyon Wash | | | Santa Ana Delhi Channel | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* | Fecal Coliform | Geomean* | 30-day period met objective* |
| 7-Apr-03 | 210 | 182 | NA | 60 | | NA | 20 | 529 | NA |
| 14-Apr-03 | TNTC | 646 | NA | 220 | 166 | NA | 230 | 457 | NA |
| 21-Apr-03 | 30 | 313 | NA | NS | | NA | >800 | 271 | NA |
| 30-Apr-03 | 50 | 285 | NA | 60 | | NA | 460 | 231 | NA |
| 5-May-03 | 20 | 191 | NA | 310 | | NA | 3800 | 364 | NA |
| 12-May-03 | 20 | 119 | NA | 140 | | NA | 530 | 702 | NA |
| 19-May-03 | 270 | 44 | NA | 30 | | NA | 1170 | 972 | NA |
| 27-May-03 | 240 | 66 | NA | 490 | 131 | NA | 2600 | 1230 | NA |
| 2-Jun-03 | NS | | NA | 80 | 139 | NA | 220 | 1062 | NA |
| 9-Jun-03 | NS | | NA | 130 | 116 | NA | 4400 | 1093 | NA |
| 16-Jun-03 | NS | | NA | NS | | NA | 710 | 1159 | NA |
| 23-Jun-03 | NS | | NA | 80 | | NA | 4600 | 1524 | NA |
| 30-Jun-03 | NS | | NA | NS | | NA | 4200 | 1677 | NA |
| 7-Jul-03 | NS | | NA | 10 | | NA | 2400 | 2705 | NA |
| 14-Jul-03 | NS | | NA | 250 | | NA | 2200 | 2355 | NA |
| 21-Jul-03 | NS | | NA | 20 | | NA | 600 | 2277 | NA |
| 28-Jul-03 | NS | | NA | 80 | | NA | 700 | 1563 | NA |
| 4-Aug-03 | NS | | NA | NS | | NA | 7800 | 1768 | NA |
| 11-Aug-03 | NS | | NA | 160 | | NA | 2600 | 1797 | NA |
| 21-Aug-03 | NS | | NA | NS | | NA | >5200 | | NA |
| 25-Aug-03 | NS | | NA | 160 | | NA | 130 | 1572 | NA |
| 2-Sep-03 | NS | | NA | NS | | NA | 160 | 1170 | NA |
| 8-Sep-03 | NS | | NA | 930 | | NA | 2000 | 891 | NA |
| 15-Sep-03 | NS | | NA | NS | | NA | >580 | 660 | NA |
| 22-Sep-03 | NS | | NA | 190 | | NA | 10 | 189 | NA |
| 29-Sep-03 | 1000 | | NA | 140 | | NA | 1000 | 284 | NA |
| 6-Oct-03 | 310 | | NA | 110 | | NA | 240 | 308 | NA |
| 14-Oct-03 | 470 | | NA | 450 | | NA | >460 | 230 | NA |
| 20-Oct-03 | NS | | NA | 200 | 192 | NA | 410 | 214 | NA |
| 27-Oct-03 | NS | | NA | 230 | 200 | NA | 270 | 414 | NA |
| 3-Nov-03 | NS | | NA | 1000 | 296 | NA | Cw/C | 867 | NA |
| 12-Nov-03 | 10 | | NA | 120 | 301 | NA | 380 | 950 | NA |
| 17-Nov-03 | 80 | | NA | 280 | 274 | NA | 1000 | 1110 | NA |
| 24-Nov-03 | 70 | | NA | 710 | 353 | NA | 250 | 1005 | NA |
| 1-Dec-03 | 10 | | NA | 1620 | 522 | NA | 120 | 855 | NA |
| 9-Dec-03 | 40 | 30 | NA | 1770 | 585 | NA | 2200 | 478 | NA |
| 15-Dec-03 | 50 | 41 | NA | NS | | NA | TNTC | 1214 | NA |
| 22-Dec-03 | 110 | 43 | NA | 240 | | NA | 7200 | 1802 | NA |
| 29-Dec-03 | 40 | 39 | NA | NS | | NA | 660 | 2188 | NA |
| 5-Jan-04 | 140 | 66 | NA | 400 | | NA | 160 | 2318 | NA |
| 12-Jan-04 | 80 | 76 | NA | 320 | | NA | 15000 | 3403 | NA |
| 20-Jan-04 | 50 | 76 | NA | 510 | | NA | 190 | 1167 | NA |
| 26-Jan-04 | 20 | 54 | NA | 380 | | NA | 60 | 448 | NA |
| 2-Feb-04 | <10 | 41 | NA | 160 | 331 | NA | 100 | 307 | NA |
| 9-Feb-04 | 20 | 28 | NA | 270 | 306 | NA | 100 | 280 | NA |
| 17-Feb-04 | 110 | 29 | NA | 480 | 332 | NA | 180 | 115 | NA |
| 23-Feb-04 | 2000 | 62 | NA | NS | | NA | 4200 | 214 | NA |
| 1-Mar-04 | 10 | 54 | NA | 1800 | | NA | 160 | 261 | NA |
| 8-Mar-04 | <10 | 54 | NA | 180 | | NA | 260 | 316 | NA |
| 15-Mar-04 | 80 | 71 | NA | 440 | | NA | 140 | 338 | NA |
| 22-Mar-04 | 40 | 58 | NA | NS | | NA | 270 | 366 | NA |
| 31-Mar-04 | 50 | 28 | NA | 70 | | NA | 220 | 203 | NA |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

# TABLE 2

## RUNNING GEOMEAN OF FECAL COLIFORM CONCENTRATIONS IN NEWPORT BAY

April 2003-March 2004

### TRIBUTARY STATIONS

| | San Diego Creek @ Campus Dr. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fecal Coliform | Geomean* | 30-day period met objective* | | | | | | | | | |
| 7-Apr-03 | 20 | 541 | no | | | | | | | | | |
| 14-Apr-03 | >230 | 487 | no | | | | | | | | | |
| 21-Apr-03 | >270 | 179 | no | | | | | | | | | |
| 30-Apr-03 | 120 | 136 | yes | | | | | | | | | |
| 5-May-03 | >3800 | 224 | no | | | | | | | | | |
| 12-May-03 | 200 | 355 | no | | | | | | | | | |
| 19-May-03 | >70 | 280 | no | | | | | | | | | |
| 27-May-03 | 270 | 280 | no | | | | | | | | | |
| 2-Jun-03 | 250 | 324 | no | | | | | | | | | |
| 9-Jun-03 | 390 | 206 | no | | | | | | | | | |
| 16-Jun-03 | >60 | 162 | yes | | | | | | | | | |
| 23-Jun-03 | 2800 | 338 | no | | | | | | | | | |
| 30-Jun-03 | 2600 | 532 | no | | | | | | | | | |
| 7-Jul-03 | >180 | 498 | no | | | | | | | | | |
| 14-Jul-03 | 200 | 436 | no | | | | | | | | | |
| 21-Jul-03 | 100 | 483 | no | | | | | | | | | |
| 28-Jul-03 | 80 | 237 | no | | | | | | | | | |
| 4-Aug-03 | >760 | 185 | no | | | | | | | | | |
| 11-Aug-03 | 800 | 250 | no | | | | | | | | | |
| 21-Aug-03 | >70 | | no | | | | | | | | | |
| 25-Aug-03 | <10 | 128 | no | | | | | | | | | |
| 2-Sep-03 | >60 | 121 | no | | | | | | | | | |
| 8-Sep-03 | 80 | 77 | no | | | | | | | | | |
| 15-Sep-03 | 100 | 51 | yes | | | | | | | | | |
| 22-Sep-03 | 70 | 51 | yes | | | | | | | | | |
| 29-Sep-03 | >200 | 92 | yes | | | | | | | | | |
| 6-Oct-03 | 60 | 92 | yes | | | | | | | | | |
| 14-Oct-03 | 310 | 121 | yes | | | | | | | | | |
| 20-Oct-03 | 190 | 138 | yes | | | | | | | | | |
| 27-Oct-03 | 230 | 175 | yes | | | | | | | | | |
| 3-Nov-03 | <10 | 96 | yes | | | | | | | | | |
| 12-Nov-03 | 110 | 108 | yes | | | | | | | | | |
| 17-Nov-03 | 3800 | 179 | no | | | | | | | | | |
| 24-Nov-03 | 120 | 163 | no | | | | | | | | | |
| 1-Dec-03 | 100 | 138 | no | | | | | | | | | |
| 9-Dec-03 | 3600 | 448 | no | | | | | | | | | |
| 15-Dec-03 | 13000 | 1164 | no | | | | | | | | | |
| 22-Dec-03 | 390 | 738 | no | | | | | | | | | |
| 29-Dec-03 | 800 | 1079 | no | | | | | | | | | |
| 5-Jan-04 | 380 | 1409 | no | | | | | | | | | |
| 12-Jan-04 | 550 | 967 | no | | | | | | | | | |
| 20-Jan-04 | 490 | 502 | no | | | | | | | | | |
| 26-Jan-04 | 190 | 435 | no | | | | | | | | | |
| 2-Feb-04 | 500 | 396 | no | | | | | | | | | |
| 9-Feb-04 | 110 | 309 | no | | | | | | | | | |
| 17-Feb-04 | 170 | 244 | no | | | | | | | | | |
| 23-Feb-04 | Cw/C | 589 | no | | | | | | | | | |
| 1-Mar-04 | 1000 | 821 | no | | | | | | | | | |
| 8-Mar-04 | 240 | 709 | no | | | | | | | | | |
| 15-Mar-04 | 200 | 799 | no | | | | | | | | | |
| 22-Mar-04 | 50 | 626 | no | | | | | | | | | |
| 31-Mar-04 | 260 | 229 | no | | | | | | | | | |

Sampling results on these dates may have been influenced by rainfall (within 72 hours of 0.1 inch of precipitation)

Running 30-day geometric mean > 200 organisms/100 mL based on 5 or more samples per 30-day period or Fecal Coliform sample > 400 organisms/100mL

Both criteria of the Fecal Coliform TMDL met

Geomean unable to be calculated since less than 5 samples taken from the preceding 30-day period

**TNTC** = Too Numerous to Count

**ID** = Insufficient Data to Compare to Objective

**NS** = Not Sampled

**Cw/C** = Confluent Growth with Coliforms

# APPENDIX A

# Letter from the Santa Ana Regional Water Quality Control Board dated January 7, 2000 Including Attachment to Resolution No. 99-10 (Basin Plan TMDL for Fecal Coliform)

# California Regional Water Quality Control Board
## Santa Ana Region

Winston H. Hickox
*Secretary for Environmental Protection*

Internet Address: http://www.swrcb.ca.gov
3737 Main Street, Suite 500, Riverside, California 92501-3339
Phone (909) 782-4130 ∃ FAX (909) 781-6288

Gray Davis
*Governor*




January 7, 2000

Thomas Wilson
Chairman, Newport Bay Watershed Executive Comm.
Supervisor Wilson's Office
10 Civic Center Plaza
Santa Ana, CA 92702

Jan Mittermeier
CEO, County of Orange
10 Civic Center Plaza, 3rd Floor
Santa Ana, CA 92701-4062

Allan Roeder
City Manager
P.O. Box 1200
Costa Mesa, CA 92626-1200

Dennis Danner
Acting City Manager
3300 Newport Blvd.
Newport Beach, CA 92658-8915

David Rudat
City Manager
300 E. Chapman Ave.
Orange, CA 92866

David Ream
City Manager
20 Civic Center Plaza
Santa Ana, CA 92701

Robert Dunek
City Manager
23161 Lake Center Dr. #100
Lake Forest, CA 92630

Allison Hall Hart
City Manager
P.O. Box 19575
Irvine, CA 92623-9575

William Huston
City Manager
300 Centennial Way
Tustin, CA 92780

Sat Tamaribuchi
The Irvine Company
550 Newport Center Dr.
Irvine, CA 92660

**REQUEST FOR TECHNICAL REPORTS FOR THE IMPLEMENTATION OF THE TOTAL MAXIMUM DAILY LOAD FOR FECAL COLIFORM IN NEWPORT BAY**

Dear Supervisor Wilson, Messrs. Roeder, Danner, Rudat, Ream, Dunek, and Huston, Ms. Mittermeier and Ms. Hall Hart, and Mr. Tamaribuchi:

On April 9, 1998, the California Regional Water Quality Control Board, Santa Ana Region, (Regional Board) adopted Resolution No. 99-10, which amended the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) to establish a Total Maximum Daily Load (TMDL) for fecal coliform in Newport Bay. The TMDL is the maximum load of fecal coliform that can be discharged to the Bay while assuring that the Bay's beneficial uses (e.g., recreation and shellfish harvesting uses) are protected. This TMDL was approved by the State Water Resources Control Board (SWRCB) on July 15, 1999, and by the Office of Administrative Law (OAL) on December 30, 1999, whence the TMDL became effective. For your information, the TMDL has also been submitted to the US EPA, which has already endorsed it; formal approval is also anticipated in the near future.

As you know, Board staff worked closely with the members of the Newport Bay Watershed Management and Executive Committees in the development of this TMDL. All parties sought to recommend a TMDL that would fulfill its legal obligations to achieve water quality objectives and protect beneficial uses, but which also recognized the significant uncertainties and difficulties associated with the fecal coliform problem. The adopted TMDL reflects consensus on a phased approach, whereby plans for further studies are to be submitted in accordance with a specific schedule, and whereby a detailed implementation plan will be developed later, based on the results of these studies. The study results may also indicate the need for revision of the TMDL; the Regional Board has committed to the review of the TMDL as warranted. A copy of the adopted TMDL is attached for your reference.

Pursuant to Water Code Section 13267, this letter is a request for technical reports that provide plans for further study and analysis, as required by the TMDL. We note that, in some cases (identified below), the plans required by the TMDL have already been or are being developed as part of the Health Risk Assessment (HRA) being conducted for the Bay. Please be aware that Regional Board approval of all the plans is required. We intend to present the proposed and, in some cases completed plans to the Regional Board at the earliest opportunity, following the submittal of your response to this request. As discussed below, we will recommend that the Regional Board accept the completed plans for modeling bacterial inputs and fate and for assessment of the recreational beneficial use of the Bay. You should be aware that Regional Board consideration of the plans will take place at a public hearing, and the Regional Board may require changes based on the input provided.

Pursuant to the Basin Plan requirements for the TMDL for fecal coliform in Newport Bay, and Section 13267 of the California Water Code, the County of Orange and the Cities of Irvine, Tustin, Newport Beach, Lake Forest, Santa Ana, Orange, and Costa Mesa, and the Irvine Company are hereby requested to submit the following, by the dates specified. These plans and schedules may be submitted together in a single report or separate reports for each task and jurisdiction.

## 1. Routine Monitoring Program (Section 3.a.ii.a)

*"By January 30, 2000 the County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach, and the agricultural operators in the Newport Bay watershed shall propose a plan for routine monitoring to determine compliance with the bacterial quality objectives in the Bay. At a minimum, the proposed plan shall include the collection of five (5) samples/30-days at the stations specified in Table 5-9h and shown in Figure 5-1 and analysis of the samples for total and fecal coliform and enterococci. Reports of the collected data shall be submitted monthly. An annual report summarizing the data collected for the year and evaluating compliance with the water quality objectives shall be submitted by September 1 of each year.*

*In lieu of this coordinated, regional monitoring plan, one or more of the parties identified in the preceding paragraph may submit an individual or group plan to conduct routine monitoring in areas solely within their jurisdiction to determine compliance with the bacterial objectives in the Bay (if appropriate). Any such individual or group plans shall also be submitted by January 30, 2000. Reports of the data collected pursuant to approved individual/group plan(s) shall be submitted monthly and an annual report summarizing the data and evaluating compliance with water quality objectives shall be submitted by September 1 of each year.*

*The monitoring plan(s) shall be implemented upon Regional Board approval."*

We are aware that the Orange County Health Care Agency (OCHCA) is implementing a monitoring program that meets most of the requirements cited above and it is acceptable for this monitoring program to be continued to provide for compliance with these requirements. The one difference between what is required by the TMDL and the monitoring being conducted by the OCHCA is that the OCHCA currently monitors for E.coli bacteria instead of fecal coliform. Since the Basin Plan objectives and the TMDL specifically address fecal coliform, monitoring for fecal coliform must be conducted as specified above. However, we also realize that E.coli bacteria constitute 80-90% of the fecal coliforms measured by the fecal coliform test method, and that the E.coli test method employed by OCHCA offers substantial time and resource savings. Therefore, we are willing to consider the use of E.coli monitoring as a surrogate for fecal coliform, provided that the relationship between E.coli and fecal coliform is demonstrated by the proposed monitoring program. Therefore, if you wish to use the OCHCA's monitoring program to comply with the above cited requirements, then you are requested to include in your proposed monitoring plan a plan for demonstrating the relationship between E.coli bacteria and fecal coliform.

## 2. Water Quality Model for Bacterial Indicators (Section 3.a.ii.b)

*"By January 30, 2000, the County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest, and Newport Beach and the agricultural operators in the Newport Bay watershed shall submit a plan for the development and submittal of a water quality model to be completed by 13 months after Regional Board approval of the plan. The model shall be capable of analysis of fecal coliform inputs to Newport Bay, the fate of those inputs, and the effect of those inputs on compliance with bacterial quality objectives in the Bay."*

As stated above, staff will recommend that the Regional Board find that the water quality model development effort that is part of the HRA satisfies the above requirement of the TMDL, provided that the model is capable of analysis of fecal coliform inputs to Newport Bay.

## 3. Beneficial Use Assessment (Section 3.a.ii.c)

*"By January 30, 2000, the County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach shall submit a plan to complete, by 13 months after Regional Board approval of the plan, a beneficial use assessment to identify and quantify water contact recreation activities in Newport Bay. By 13 months after Regional Board approval of the beneficial use assessment plan, these parties shall submit a report of the results of the water contact recreation beneficial use assessment."*

*By February 1, 2001, the County of Orange , the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach shall submit a plan to complete, by 13 months after Regional Board approval of the plan, a beneficial use assessment to identify and quantify shellfish harvesting activities in Newport Bay. By 13 months after Regional Board approval of the beneficial use assessment plan, these parties shall submit a report of the results of the shellfish harvesting beneficial use assessment.*

*The beneficial use assessment reports shall contain recommendations for prioritizing areas within Newport Bay for purposes of evaluation and implementation of cost-effective and reasonable control actions as part of the TMDL process. The Regional Board will consider these recommendations and make its determinations regarding high priority water contact recreation and shellfish harvesting areas at a duly noticed public hearing. These determinations will be considered in establishing interim WLAs and LAs and compliance dates (Task 10, Table 5-9g)."*

A workplan for assessment of the body contact recreation beneficial use throughout Newport Bay has been developed as part of the HRA and work has already been conducted pursuant to it. Staff has indicated our belief that the plan to conduct the assessment is appropriate and we will recommend its approval to the Regional Board. However, a plan and schedule for assessing the shellfish harvesting beneficial uses will need to be submitted. We are aware that the development of a workplan is underway.

## 4. Source Identification and Characterization (Section 3.a.ii.d)

*"By March 1, 2000, the County of Orange and the City of Newport Beach shall submit a proposed plan for a program, to be completed within 7 months after Regional Board approval of the plan to identify and characterize fecal coliform inputs to The Dunes Resort. In lieu of this coordinated plan, each of these parties may submit an individual plan to identify and characterize fecal coliform inputs to The Dunes Resort. Any such individual plan shall also be submitted by March 1, 2000 and completed within 7 months after Regional Board approval of the plan(s).*

*By March 1, 2000, the County of Orange and the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest, and Newport Beach shall submit a proposed plan for a program, to be completed within 13 months after Regional Board approval of the plan to identify and characterize fecal coliform inputs to Newport Bay from urban runoff, including stormwater. In lieu of this coordinated, regional plan, one or more of these parties may submit an individual or group plan to identify and characterize fecal coliform inputs to the Bay from urban runoff from areas within its jurisdiction. Any such individual or group plan shall also be submitted by March 1, 2000 and completed within 13 months after Regional Board approval of the plan(s).*

*By April 1, 2000, the agricultural operators in the Newport Bay watershed shall submit a proposed plan for a program, to be completed within 16 months after Regional Board approval of the plan, to identify and characterize fecal coliform inputs to Newport Bay from agricultural runoff, including stormwater. In lieu of this coordinated plan, one or more of the agricultural operators may submit an individual or group plan to identify and characterize fecal coliform inputs to the Bay from agricultural runoff from areas within their jurisdiction. Any such individual or group plan shall also be submitted by April 1, 2000 and completed within 16 months after Regional Board approval of the plan(s).*

*By April 1, 2000 the County of Orange and the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest, and Newport Beach shall submit a proposed plan for a program, to be completed within 16 months after Regional Board approval of the plan, to identify and characterize fecal coliform inputs to Newport Bay from natural sources. In lieu of this coordinated, regional plan, one or more of these parties may submit an individual or group plan to identify and characterize fecal coliform inputs to the Bay from natural sources from areas within its jurisdiction. Any such individual or group plan shall also be submitted by April 1, 2000 and completed within 16 months after Regional Board approval of the plan(s)."*

## 5. Evaluation of Vessel Waste Control Program (Section 3.a.ii.e)

*"By April 1, 2000, the County of Orange and the City of Newport Beach shall submit a plan to complete, by one year after Regional Board approval of the plan, an assessment of the effectiveness of the vessel waste control program implemented by those agencies in Newport Bay. The plan shall be implemented upon approval by the Regional Board. A report of the study results shall be submitted, together with recommendations for changes to the vessel waste program necessary to ensure compliance with this TMDL.*

*The Regional Board will consider appropriate changes to the vessel waste control program. These changes shall be implemented in accordance with a schedule to be established by the Regional Board."*

## 6. TMDL, WLA and LA Evaluation and Source Monitoring Program Section 3.a.ii.f)

*"By 3 months after completion of Tasks 2, 4a, and 6 as shown in Table 5-9g of the TMDL the County of Orange, the Cities of Tustin, Irvine, Costa Mesa Santa Ana, Orange, Lake Forest and Newport Beach, and the agricultural operators in the Newport Bay watershed shall propose a plan for evaluation and source monitoring to determine compliance with the WLAs and LAs specified in Table 5-9f. In lieu of this coordinated, regional plan, one or more of these parties may submit an individual or group plan to conduct TMDL, WLA, LA and Source Evaluation monitoring from areas solely within their jurisdiction. Any such individual or group plan shall also be submitted by 3 months after completion of Tasks 2, 4a, and 6 as shown in Table 5-9g. Reports of the data collected pursuant to approved individual/group plan(s) shall be submitted monthly and an annual report summarizing the data and evaluating compliance with WLAs and LAs shall be submitted by September 1 of each year. The annual report shall also include an evaluation of the effectiveness of control measures implemented to control sources of fecal coliform, and recommendations for any changes to the control measures needed to ensure compliance with the TMDL, WLAs, and LAs.*

*The evaluation and source monitoring plan(s) shall be implemented upon Regional Board approval."*

---

## 7. Updated TMDL Report (Section 3.a.ii.g)

*"By 6 months after completion of Tasks 2, 4a, and 6 as shown in Table 5-9g of the TMDL the County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach, and the agricultural operators in the Newport Bay watershed shall submit Updated TMDL Reports as specified in Table 5-9g. These updated TMDL reports shall, at a minimum, integrate and evaluate the results of the studies required in Table 5-9g (Task 1 – 7). The reports shall include recommendations for revisions to the TMDL, if appropriate and for interim WLAs, LAs and compliance schedules."*

This request for monitoring and technical information applies to the County of Orange, each individual City within the Newport Bay Watershed, and the Irvine Company. The Regional Board and its staff have worked with the Newport Bay Watershed Executive Committee in the development of this TMDL and it is our assumption that this Committee will assume the responsibility for preparing a coordinated response to this request. However, the County, each City, and the Irvine Company is severally responsible for ensuring compliance with this request for monitoring and technical information, and for the implementation of the TMDL for fecal coliform in the Newport Bay Watershed within the areas of the watershed within their respective jurisdictions. We are obligated to advise you that failure to submit the requested monitoring and technical information by the specified deadline may subject the County, each City, and the Irvine Company to potential civil liability pursuant to Section 13268 of the California Water Code.

Should there be any questions, please contact me at (909) 782-3284, Joanne Schneider at (909) 782-3287, or Ken Theisen at (909) 320-2028.

Sincerely,

Gerard J. Thibeault
Executive Officer
Santa Ana Regional Water Quality Control Board

Attachment: Copy of Basin Plan TMDL for Fecal Coliform in Newport Bay Watershed

cc (w/ Attachment): Regional Board
Newport Bay Pathogen TMDL Mailing List

**Attachment to Resolution No. 99-10**

Amendment to the Santa Ana Region Basin Plan

Chapter 5 - Implementation Plan, Discussion of Newport Bay Watershed (page 5-39 et seq.)

3. Bacterial Contamination

Bacterial contamination of the waters of Newport Bay can directly affect two designated beneficial uses: water-contact recreation (**REC-1**) and shellfish harvesting (**SHEL**). The Orange County Health Care Agency (OCHCA) conducts routine bacteriological monitoring and more detailed sanitary surveys as necessary, and is responsible for closure of areas to recreational and shellfish harvesting uses if warranted by the results.

Because of consistently high levels of total coliform bacteria, the upper portion of Upper Newport Bay (Upper Bay) has been closed to these uses since 1974. In 1978, the shellfish harvesting prohibition area was expanded to include all of the Upper Bay, and the OCHCA generally advises against the consumption of shellfish harvested anywhere in the Bay. Bacterial objectives established to protect shellfish harvesting activities are rarely met in the Bay. (Fecal coliform objectives for the protection of shellfish harvesting and water-contact recreation are shown in Chapter 4, "Enclosed Bays and Estuaries". The OCHCA has relied on total coliform standards specified in the California Health and Safety Code. Fecal coliform are a subset of total coliform.) Certain areas in the lower parts of the Upper Bay and in Lower Newport Bay (Lower Bay) are also closed to water-contact recreation on a temporary basis, generally in response to storms. In these areas, there is generally good compliance with water-contact recreation bacterial objectives in the summer.

Data collected by the OCHCA demonstrate that tributary inflows, composed of urban and agricultural runoff, including stormwater, are the principal sources of coliform input to the Bay. As expected, there are more violations of bacterial standards in the Bay during wet weather, when tributary flows are higher, than in dry weather. There are few data on the exact sources of the coliform in this runoff. Coliform has diverse origins, including: manure fertilizers which may be applied to agricultural crops and to commercial and residential landscaping; the fecal wastes of humans, household pets and wildlife; and other sources. Special investigations by OCHCA have demonstrated that food wastes are a significant source of coliform. Many restaurants wash down equipment and floor mats into storm drains tributary to the Bay and may improperly dispose of food waste such that it eventually washes into the Bay. Such discharges likely contribute to the chronic bacterial quality problems in certain parts of the Bay.

Another source of bacterial input to the Bay is the discharge of vessel sanitary wastes. Newport Bay has been designated a no-discharge harbor for vessel sanitary wastes since 1976. Despite this prohibition, discharges of these wastes have continued to occur. Since these wastes are of human origin, they pose a potentially significant public health threat.

The Regional Board, the City of Newport Beach (City), the County of Orange, the City of Newport Beach Harbor Quality Committee, and other parties have taken or stimulated actions to enforce the vessel waste discharge prohibition. The principal focus of these efforts has been to make compliance with the prohibition convenient and therefore more likely. Vessel waste pumpouts have been installed at key locations around the Bay and are inspected routinely by the OCHCA. A City ordinance addresses people-intensive boating activities to ensure proper disposal of sanitary wastes. The ordinance requires that sailing clubs, harbor tour, and boat charter operations install pumpouts for their vessels. Another City ordinance addresses vessel waste disposal by persons living on their boats. Efforts have also been made to ensure that there are adequate public rest rooms onshore. The City also sponsors an extensive public education campaign designed to advise both residents and visitors of the discharge prohibition, the significance of violations, and of the location of pumpouts and rest room facilities. The effectiveness of these extensive vessel waste control efforts is not known.

As noted, the fecal waste of wildlife, including waterfowl that inhabit the Bay and its environs, is a source of coliform input. The fecal coliform from these natural sources may contribute to the violations of water quality objectives and the loss of beneficial uses, but it is currently unknown to what extent these natural sources contribute to, or cause, the violations of bacterial quality objectives in Newport Bay.

Reports prepared by Regional Board staff describe the bacterial quality problems in the Bay in greater detail and discuss the technical basis for the fecal coliform TMDL that follows (21, 22). Implementation of this TMDL is expected to address these bacterial quality problems and to assure attainment of water quality standards, that is, compliance with water quality objectives and protection of beneficial uses.

### 3.a. Fecal Coliform TMDL

A prioritized, phased approach to the control of bacterial quality in the Bay is specified in this TMDL. This approach is appropriate, given the complexity of the problem, the paucity of relevant data on bacterial sources and fate, the expected difficulties in identifying and implementing appropriate control measures, and uncertainty regarding the nature and attainability of the SHEL use in the Bay. The phased approach is intended to allow for additional monitoring and

assessment to address areas of uncertainty and for future revision and refinement of the TMDL as warranted by these studies.

Table 5-9f summarizes the TMDL, Waste Load Allocations (WLAs) for point sources of fecal coliform inputs and Load Allocations (LAs) for nonpoint source inputs. As shown, the TMDL, WLAs and LAs are established to assure compliance with water contact recreation standards no later than December 30, 2014 and with shellfish standards no later than December 30, 2019. WLAs are specified for vessel waste and urban runoff, including stormwater, the quality of which is regulated under a County-wide NPDES permit issued by the Regional Board. This runoff is thus regulated as a point source, even though it is diffuse in origin. LAs are specified for fecal coliform inputs from agricultural runoff, including stormwater, and natural sources. The TMDL is to be adjusted, as appropriate, based upon completion of the studies contained in Table 5-9g. Upon completion of these studies, an updated TMDL report will be prepared summarizing the results of the studies and making recommendations regarding implementation of the TMDL. The results of the studies may lead to recommendations for changes to the TMDL specified in Table 5-9f to assure compliance with existing Basin Plan standards (objectives and beneficial uses). The study results may also lead to recommendations for changes to the Basin Plan objectives and/or beneficial uses. If such standards changes are approved through the Basin Plan amendment process, then appropriate changes to the TMDL would be required to assure attainment of the revised standards. Revision of the TMDL, if appropriate, would also be considered through the Basin Plan amendment process.

Upon completion and consideration of the studies and any appropriate Basin Plan amendments, a plan for compliance with the TMDL specified in Table 5-9f, or with an approved amended TMDL, shall be established. It is expected that this plan will specify a phased compliance approach, based on consideration of such factors as geographic location, the priority assigned by the Regional Board to specific locations for control actions (see Section 3.a.ii, "Beneficial Use Assessment"), season, etc. Interim WLAs, LAs and compliance dates that lead to ultimate compliance with the TMDL will be established.
The TMDL and its allocations contain a significant margin of safety. The margin of safety can be either incorporated implicitly through analytical approaches and assumptions used to develop the TMDL or added explicitly as a separate component of the TMDL. A substantial margin of safety is implicitly incorporated in the TMDL in the fact that the TMDL does not apply criteria for dilution, natural die-off, and tidal flushing. The TMDL, WLAs, and LAs are established at concentrations equivalent to the water quality objectives.

Table 5-9f: **Total Maximum Daily Load, Waste Load Allocations, and Load Allocations for Fecal Coliform in Newport Bay**

| Total Maximum Daily Load for Fecal Coliform In Newport Bay | Waste Load Allocations for Fecal Coliform in Urban Runoff, including stormwater, Discharges to Newport Bay | Load Allocations for Fecal Coliform in Agricultural Runoff, including stormwater, Discharges to Newport Bay | Load Allocations for Fecal Coliform from Natural Sources in all Discharges to Newport Bay | Waste Load Allocations for Vessel Waste |
|---|---|---|---|---|
| **As soon as possible but no later than December 30, 2013** | | | **In Effect** | **In Effect** |
| 5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period. | 5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period. | 5-Sample/30-days Geometric Mean less than 200 organisms/ 100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period. | 5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period. | 0 MPN/100 mL No discharge. |
| **As soon as possible but no later than December 30, 2019** | | | | **In Effect** |
| Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL. | Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL. | Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL. | Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL. | 0 MPN/100 mL No discharge. |

**Table 5-9g: Fecal Coliform Implementation Plan/Schedule Report Due Dates**

| Task | Description | Compliance Date-As soon As Possible but No Later Than |
|---|---|---|
| Task 1 | Routine Monitoring Program (Section 3.a.ii.a)<br>a) Submit Proposed Routine Monitoring Plan(s)[1]<br>b) Implement Routine Monitoring Plan(s)<br><br>c) Submit Monthly and Annual Reports (Reporting Period: April 1-March 31) | a) January 30, 2000<br>b) Upon Regional Board Approval of Plan(s)<br>c) Monthly within 30 days, Annual Report by September 1 |
| Task 2 | Water Quality Model for Bacterial Indicators (Section 3.a.ii.b)<br>a) Submit Proposed Model Development Plan<br>b) Submit Calibrated Model and Model Documentation | a) January 30, 2000<br>b) 13 months after Regional Board approval of plan(s) |
| Task 3 | Beneficial Use Assessment Plan (Section 3.a.ii.c)<br>Submit Proposed Assessment Plan for:<br>a) REC-1<br>b) SHEL | a) January 30, 2000<br>b) March 1, 2001 |
| Task 4 | Beneficial Use Assessment Report (3.a.ii.c)<br>Submit Beneficial Use Assessment Report for:<br>a) REC-1<br><br>b) SHEL | a) 13 months after Regional Board approval of plan(s)<br>b) 13 months after Regional Board approval of plan(s) |
| Task 5 | Source Identification and Characterization Plan(s) (Section 3.a.ii.d)<br>Submit Proposed Source Identification Plans for:<br>a) The Dunes Resort<br>b) Urban Runoff (including stormwater)<br>c) Agriculture (including stormwater)<br>d) Natural Sources | a) March 1, 2000<br>b) March 1, 2000<br>c) April 1, 2000<br>d) April 1, 2000 |
| | | |

| Table 5-9g: Fecal Coliform Implementation Plan/Schedule Report Due Dates | | |
|---|---|---|
| **Task** | **Description** | **Compliance Date-As Soon As Possible but No Later Than** |
| Task 6 | Source Identification and Characterization Reports (Section 3.a.ii.d)<br>Submit Source Identification and Characterization Reports for:<br>a) The Dunes Resort<br><br>b) Urban Runoff (including stormwater)<br><br>c) Agriculture (including stormwater)<br><br>d) Natural Sources | <br><br>a) 7 months after Regional Board approval of plan(s)<br>b) 13 months after Regional Board approval of plan(s)<br>c) 16 months after Regional Board approval of plan(s)<br>d) 16 months after Regional Board approval of plan(s) |
| Task 7 | Evaluation of Vessel Waste Program (Section 3.a.ii.e)<br>a) Submit Proposed Plan for Evaluating the Current Vessel Waste Program<br>b) Submit Report on the Evaluation of the Vessel Waste Program | <br>a) April 1, 2000<br>b) 12 months after Regional Board approval of plan |
| Task 8 | TMDL, WLA, and LA Evaluation and Source Monitoring Program (Section 3.a.ii.f)<br>a) Submit Proposed Evaluation and Source Monitoring Program Plan(s)<br><br>b) Implement Evaluation and Source Monitoring Plan(s)<br><br>c) Submit Monthly and Annual Reports (Reporting Period: April 1-March 31) | <br>a) 3 months after completion of Tasks 2, 4a, and 6<br>b) Upon Regional Board approval of plan(s)<br>c) Monthly within 30 days, Annual Report by September 1 |
| Task 9 | Updated TMDL Report<br>Submit updated TMDL report for:<br>a) REC-1<br><br>b) SHEL | <br><br>a) 6 months after completion of Tasks 2, 4a, 6, and 7<br>b) 6 months after completion of Tasks 2, 4b, 6, and 7 |

| Table 5-9g: Fecal Coliform Implementation Plan/Schedule Report Due Dates | | |
|---|---|---|
| **Task** | **Description** | **Compliance Date-As Soon As Possible but No Later Than** |
| Task 10 | Adjust TMDL, if necessary; adopt interim WLAs, LAs, and Compliance Dates (Section 3.a.ii.h)<br>a) REC-1<br><br>b) SHEL | <br><br>a) 12 months after completion of Updated TMDL Report for REC-1 (Task 9.a)<br>b) 12 months after completion of Updated TMDL Report for SHEL (Task 9.b) |
| [1]Note: Provided that the monitoring program plan(s) fulfills the minimum requirements specified in this TMDL, approval of the TMDL shall constitute Regional Board approval of the monitoring program plan(s). | | |

3.a.i. TMDL Implementation

As soon as possible but no later than the dates specified in Table 5-9g, the County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach and agricultural operators in the Newport Bay watershed shall submit the plans and schedules shown in Table 5-9g and described in Section 3.a.ii. Subsequent phases of TMDL implementation shall take into account the results of the monitoring and assessment efforts required by the initial study phase of the TMDL implementation plan and other relevant studies.

The following sections describe the requirements for the submittal of plans by dischargers in the Newport Bay watershed to complete specific monitoring, investigations and analyses. In each and every case, the plans submitted by the named dischargers will be considered for approval by the Regional Board at a duly noticed public hearing as specified in Chapter 1.5, Division 3, Title 23 of the California Code of Regulations (Section 647 et seq.). The plans are to be implemented upon Regional Board approval and completed as specified in Table 5-9g.

3.a.ii. Monitoring and Assessment

Routine monitoring and special investigations and analyses are an important part of this phased TMDL. Routine monitoring is necessary to assess compliance with the bacterial quality objectives in the Bay and with the WLAs and LAs specified in the TMDL. Special investigations and analyses are needed to identify and characterize sources of fecal coliform input and to determine their fate in the Bay so that appropriate control measures can be developed and implemented. The effectiveness of current and future bacterial control measures needs to be evaluated. The results of these studies may warrant future changes to this TMDL.

3.a.ii.a. Routine Monitoring

By January 30, 2000, the County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach, and the agricultural operators in the Newport Bay watershed shall propose a plan for routine monitoring to determine compliance with the bacterial quality objectives in the Bay. At a minimum, the proposed plan shall include the collection of five (5) samples/30-days at the stations specified in Table 5-9h and shown in Figure 5-1

and analysis of the samples for total and fecal coliform and enterococci. Reports of the collected data shall be submitted monthly. An annual report summarizing the data collected for the year and evaluating compliance with the water quality objectives shall be submitted by September 1 of each year.

In lieu of this coordinated, regional monitoring plan, one or more of the parties identified in the preceding paragraph may submit an individual or group plan to conduct routine monitoring in areas solely within their jurisdiction to determine compliance with the bacterial objectives in the Bay (if appropriate). Any such individual or group plans shall also be submitted by January 30, 2000. Reports of the data collected pursuant to approved individual/group plan(s) shall be submitted monthly and an annual report summarizing the data and evaluating compliance with water quality objectives shall be submitted by September 1 of each year.

The monitoring plan(s) shall be implemented upon Regional Board approval.

**Table 5-9h**

**Newport Bay Sampling Stations for Routine Compliance Monitoring with Bacterial Quality Objectives (see Figure 1 for Station Locations)**

| | | |
|---|---|---|
| Ski Zone | 33rd Street | Park Avenue |
| Vaughns Launch | Rhine Channel | Via Genoa |
| Northstar Beach | De Anza | Alvarado/Bay Is. |
| Abalone Avenue | Promontory Pt. | 10th Street |
| Dunes East | Bayshore Beach | 15th Street |
| Dunes Middle | Onyx Avenue | 19th Street |
| Dunes West | Garnet Avenue | Lido Island Yacht Club |
| Dunes North | Ruby Avenue | Harbor Patrol |
| 43rd Street | Sapphire Avenue | N Street Beach |
| 38th Street | Newport Blvd. Bridge | Rocky Point |
| San Diego Creek @ Campus Dr. | Santa Ana Delhi Channel | Big Canyon Wash |
| Backbay Dr. Drain | | |

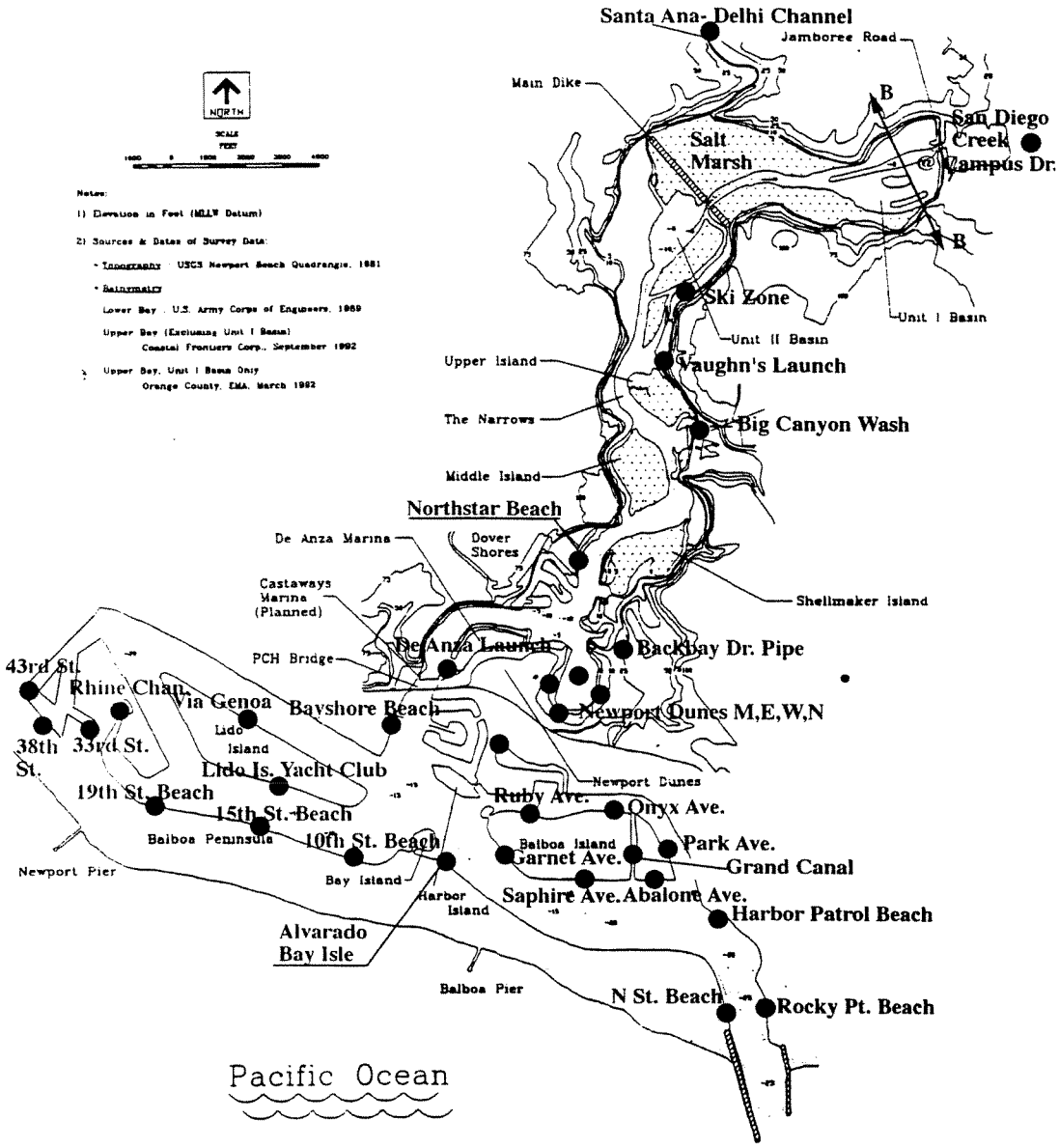



Figure 5-1: Newport Bay Bacterial Quality Monitoring Stations

3.a.ii.b. Fate of Bacterial Inputs

By January 30, 2000, the County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest, and Newport Beach and the agricultural operators in the Newport Bay watershed shall submit a plan for the development and submittal of a water quality model to be completed by 13 months after Regional Board approval of the plan. The model shall be capable of analysis of fecal coliform inputs to Newport Bay, the fate of those inputs, and the effect of those inputs on compliance with bacterial quality objectives in the Bay.

3.a.ii.c. Beneficial Use Assessment

By January 30, 2000, the County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach shall submit a plan to complete, by 13 months after Regional Board approval of the plan, a beneficial use assessment to identify and quantify water contact recreation activities in Newport Bay. By 13 months after Regional Board approval of the beneficial use assessment plan, these parties shall submit a report of the results of the water contact recreation beneficial use assessment.

By March 1, 2001, the County of Orange , the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach shall submit a plan to complete, by 13 months after Regional Board approval of the plan, a beneficial use assessment to identify and quantify shellfish harvesting activities in Newport Bay. By 13 months after Regional Board approval of the beneficial use assessment plan, these parties shall submit a report of the results of the shellfish harvesting beneficial use assessment.

The beneficial use assessment reports shall contain recommendations for prioritizing areas within Newport Bay for purposes of evaluation and implementation of cost-effective and reasonable control actions as part of the TMDL process. The Regional Board will consider these recommendations and make its determinations regarding high priority water contact recreation and shellfish harvesting areas at a duly noticed public hearing. These determinations will be considered in establishing interim WLAs and LAs and compliance dates (Task 10, Table 5-9g).

3.a.ii.d. Source Identification and Characterization

By March 1, 2000, the County of Orange and the City of Newport Beach shall submit a proposed plan for a program, to be completed within 7 months after Regional Board approval of the plan to identify and characterize fecal coliform inputs to The Dunes Resort. In lieu of this coordinated plan, each of these parties may submit an individual plan to identify and characterize fecal coliform inputs to The Dunes Resort. Any such individual plan shall also be submitted by March 1, 2000 and completed within 7 months after Regional Board approval of the plan(s).

By March 1, 2000, the County of Orange and the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest, and Newport Beach shall submit a proposed plan for a program, to be completed within 13 months after Regional Board approval of the plan to identify and characterize fecal coliform inputs to Newport Bay from urban runoff, including stormwater. In lieu of this coordinated, regional plan, one or more of these parties may submit an individual or group plan to identify and characterize fecal coliform inputs to the Bay from urban runoff from areas within its jurisdiction. Any such individual or group plan shall also be submitted by March 1, 2000 and completed within 13 months after Regional Board approval of the plan(s).

By April 1, 2000, the agricultural operators in the Newport Bay watershed shall submit a proposed plan for a program, to be completed within 16 months after Regional Board approval of the plan, to identify and characterize fecal coliform inputs to Newport Bay from agricultural runoff, including stormwater. In lieu of this coordinated plan, one or more of the agricultural operators may submit an individual or group plan to identify and characterize fecal coliform inputs to the Bay from agricultural runoff from areas within their jurisdiction. Any such individual or group plan shall also be submitted by April 1, 2000, and completed within 16 months after Regional Board approval of the plan(s).

By April 1, 2000, the County of Orange and the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest, and Newport Beach shall submit a proposed plan for a program, to be completed within 16 months after Regional Board approval of the plan, to identify and characterize fecal coliform inputs to Newport Bay from natural sources. In lieu of this coordinated, regional plan, one or more of these parties may submit an individual or group plan to identify and characterize fecal coliform inputs to the Bay from natural sources from areas within its jurisdiction. Any such individual or group plan shall also be submitted by April 1, 2000 and completed within 16 months after Regional Board approval of the plan(s).

3.a.ii.e. Evaluation of Vessel Waste Control Program

By April 1, 2000, the County of Orange and the City of Newport Beach shall submit a plan to complete, by one year after Regional Board approval of the plan, an assessment of the effectiveness of the vessel waste control program implemented by those agencies in Newport Bay. The plan shall be implemented upon approval by the Regional Board. A report of the study results shall be submitted, together with recommendations for changes to the vessel waste program necessary to ensure compliance with this TMDL.

The Regional Board will consider appropriate changes to the vessel waste control program. These changes shall be implemented in accordance with a schedule to be established by the Regional Board.

3.a.ii.f. TMDL, WLA and LA Evaluation and Source Monitoring Program

By 3 months after completion of Tasks 2, 4a, and 6 as shown in Table 5-9g, the County of Orange, the Cities of Tustin, Irvine, Costa Mesa Santa Ana, Orange, Lake Forest and Newport Beach, and the agricultural operators in the Newport Bay watershed shall propose a plan for evaluation and source monitoring to determine compliance with the WLAs and LAs specified in Table 5-9f. In lieu of this coordinated, regional plan, one or more of these parties may submit an individual or group plan to conduct TMDL, WLA, LA and Source Evaluation monitoring from areas solely within their jurisdiction. Any such individual or group plan shall also be submitted by 3 months after completion of Tasks 2, 4a, and 6 as shown in Table 5-9g. Reports of the data collected pursuant to approved individual/group plan(s) shall be submitted monthly and an annual report summarizing the data and evaluating compliance with WLAs and LAs shall be submitted by September 1 of each year. The annual report shall also include an evaluation of the effectiveness of control measures implemented to control sources of fecal coliform, and recommendations for any changes to the control measures needed to ensure compliance with the TMDL, WLAs, and LAs.

The evaluation and source monitoring plan(s) shall be implemented upon Regional Board approval.

3.a.ii.g. Updated TMDL Report

The County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach, and the agricultural operators in the Newport Bay watershed shall submit Updated TMDL Reports as specified in Table 5-9g. These updated TMDL reports shall, at a minimum, integrate and evaluate the results of the studies required in Table 5-9g (Task 1 – 7). The

reports shall include recommendations for revisions to the TMDL, if appropriate and for interim WLAs, LAs and compliance schedules

3.a.ii.h. Adjust TMDL; Adopt Interim WLA, LAs and Compliance Dates

Based on the results of the studies required by Table 5-9g and recommendations made in the Updated TMDL Reports, changes to the TMDL for fecal coliform may be warranted. Such changes would be considered through the Basin Plan Amendment process. Upon completion and consideration of the studies and any appropriate Basin Plan amendments, interim WLAs and LAs that lead to ultimate compliance with the TMDL specified in Table 5-9f, or with an approved amended TMDL, will be established with interim compliance dates. Schedules will also be established for submittal of implementation plans for control measures to achieve compliance with these WLAs, LAs, and compliance dates. These implementation plans will be considered by the Regional Board at a duly noticed public hearing.

The Regional Board is committed to the review of this TMDL every three years or more frequently if warranted by these or other studies. The County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Lake Forest, and Newport Beach, The Irvine Company and the Irvine Ranch Water District have undertaken to prepare a health risk assessment for Newport Bay for water contact recreation and shellfish harvesting beneficial uses. This study will evaluate whether exceedances of fecal coliform objectives correlates with actual impairment of beneficial uses and may recommend revisions to the Basin Plan objectives and/or beneficial use designations. Because this study is in progress, it is not required by this TMDL implementation plan, but will be considered in conjunction with the studies required by the implementation plan.